

1964a-1965a

# HUNTER

HIGH RELIABILITY TOOLS  
for the Space Age



Hunter Tools Meet NASA Standards



*Featuring*  
TOOLS FOR  
MICRO-MINIATURE  
ASSEMBLY

REFERENCE FOR INDEX SEE INSIDE REAR COVER

**HUNTER TOOLS**

A Division of HUNTER INDUSTRIES

9851 Alburtis Ave. • Santa Fe Springs • California • Telephones: (213) 692-7281 • (213) 723-4659



# Hunter — Specialists in Electronic Pliers

Every buyer should know about plier shapes and sizes



**Flat Nose**

For straightening small pins, wires; handling thin, flat, wafer type sheets. Positive grip. Smooth jaws do not damage wire.



**Round Nose**

For the precision looping, curling, coiling and forming of fine wire. Round jaws do not have sharp edges; will not mar wire — important in fine wire work.



**Needle Nose**

Makes mechanical connections, component lead bends, holds for solder, guides leads. We have smooth jaw, radius edge, serrated jaw models for all possible uses.



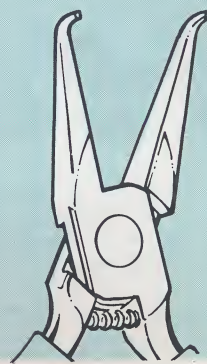
**Curved Needle**

For precision pick-up of tiny parts. For bending, holding small wires, components, in extremely limited access areas. Used for pulling when serrated.



**Chain Nose**

For precision pickup, twisting, looping, bending fine wire; works heavier wire than needle nose. Should have radius edges if non-mar of wire is needed.



**Curved Chain**

For work in angled areas and around corners. For bending and forming fine wire. Available with radius edges, see story on next page.



**Combination**

Chain nose with cutter. Will both cut and form wire. Can be used for pulling when jaws are serrated. Can be used in limited access area.



**Transverse Cut**

Cuts in extremely limited working area. Will cut flat ribbon wire. Available in full flush cut models, see page 5 of this catalog for these tools.



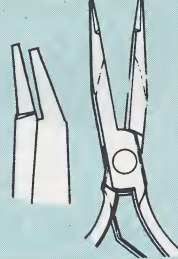
**Diagonal — "Dyke"**

Standard wire cutting tool. Hunter has available different degrees of cutting edges for all possible uses. See Page 6 of this catalog for choice.



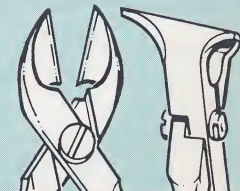
**Taper Jaw**

Same use as standard diagonal but will work in more restricted areas. See page 6 for all models including those designed to give full flush cut.



**Angle Cut**

Newly designed. Made for use on circuit boards. Design allows user great visibility and has a full flush cut for this work.



**Nippers**

Straight or oblique cut — latter gives most visibility. Used in micro-miniature work; use in areas of limited access. Ideal for printed circuits.

**Top quality steel forgings:** Fine Hunter quality begins with quality forgings. Basic material used are fine grain, high carbon steel or chrome vanadium alloy steel. Forgings are carefully machined then heat treated and hardened to the proper Rockwell using the best modern heat treating equipment. Because of this basic quality approach Hunter tools give long satisfactory service life on electronic assembly stations.

**Hand fitting and finishing:** Hunter pliers are hand fitted and finished to make tools that are a joy to use and a pleasure to look at. All are individually inspected; each one opens and closes easily so operators have a minimum of hand fatigue; jaw of needle and chain nose pliers are always parallel and meet perfectly; cutting edges are precision honed to cut cleanly and accurately.

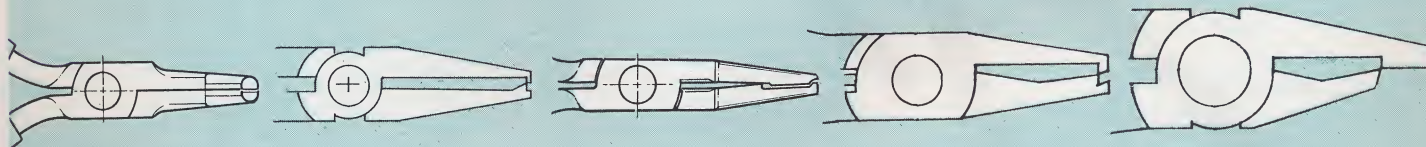
## Hunter Designs and Builds Special Tools to Solve Special Manufacturing and Assembly Problems

Hunter can help you solve your special tool problems. Hunter has at your service: (1) A Complete Tool Research and Design Department with a wide knowledge and experience that ranges from work in plastics to work in obdurate tool steels; (2) A Complete Experimental Machine Shop staffed with expert research machinists; (3) A Special Custom Production Shop, geared to produce limited quantities of custom-made tools; (4) Modern Precision Manufacturing

Facilities able to build quantities of special tools if needed. Hunter has done much special work in solving industrial tool problems. We have worked successfully with Wood, Ivory, Acrylic Plastics, Tenite, Nylon, Teflon, Brass, Beryllium, Titanium, Stainless Steel, Anti-acid Steel, Chrome-vanadium and other special analysis steels.

Let Hunter help you with your problem

### EXAMPLES OF SPECIAL TOOLS DESIGNED AND BUILT BY HUNTER AND NOW WORKING IN THE ELECTRONICS INDUSTRY



**Connector Tightening Tool.** Used to connect Microdot miniature connectors. This special plier was designed to be similar to a spanner wrench and was a successful solution to a problem. Spanner pliers can be custom made to fit your connector tightening problem.

Consult Hunter if you have a connecting problem. We have worked with many electronic companies and have been able to make important contributions to the solution of problems.

**Anti-Shock Plier.** Extensive tests at Southern California Aerospace Industries indicated that as high as 30gs of mechanical shock can be thrown on a delicate component or joint by the wedging action inherent in the cutting action of a standard diagonal plier. The plier shown above was developed by Hunter to reduce this shock to a minimum. The problem was solved by using a shearing action plus a cradle holding action. If you have a problem of this character let us aid you in its solution.

**Transistor Stand-Off Forming Plier.** This special crimping tool was designed by Hunter to crimp the leads of a transistor so it would stand off of a printed circuit board. The solution shown was very successful and solved a problem for this manufacturer. We have developed six different versions of this tool, each designed to solve a similar problem with transistors and consequent standoffs. If you work with transistors and circuit boards it will pay you to consult with us.

**Cutter-Crimper Tool.** This tool was developed for printing circuit board work. It uses a shear action to cut off the extended component lead to the wanted length and then bends and lead up at an angle — this angle can be as great as 45 degrees with the board if wanted. Handling leads in this manner prevents the lead from dropping back through the hole and allows finish bending and soldering operations. A tool such as this can make you substantial savings in labor if you assemble circuit boards.

**Shear Cutting Plier.** The above plier is a transverse end cutting plier with a shear action instead of the usual diagonal action. The shear action has two advantages: (1) It makes a perfect right circular cylinder cut which is very important in welded module work; and (2) The desired lead length can be obtained. The lead length can be adjusted, if wanted, by grinding the length of the shear. Thus all work will come out in a uniform manner and to specification. Write us for recommendations.



# 188 Patterns in Stock for Your Convenience



## Good Joints are the Secret of Good Pliers

Hunter pliers are made in both lap joint and box joint styles. **Box Joints** are preferred by many users because they are extremely long wearing, never develop looseness or wobble and retain a life-long feel of precision and action. Always give precise feather-light opening and closing. **Box Joints** give perfect jaw alignment and in cutting type pliers they develop a uniform cutting pressure from tip to joint.

**Lap Joints** can be high quality too. Hunter lap joints are carefully and precisely made and are smoothly polished to give a precision feel and action. All Hunter pliers are individually inspected and action tested before shipment.

## Regular Cutting Edge.



## Semi-Flush Cut.



## Full Flush Maximum Cut.



Add "V" to code number when safety cut is desired. Vinylite in jaws of cutter to catch ends of snipped wire. (Available on all cutters)

## Plier Tips are Important

The tips of all Hunter pliers are hand ground and matched by experienced craftsmen to insure a precise match of the points. **Smooth Tips** must pick up and hold without damage objects smaller than fine hair. **Serrated Tips** must hold firmly with only a light pressure on the plier handles. **Cutter Tips** must match precisely - cut down to the very tip, will snip wires even when flush mounted against circuit boards. Cutting edges are available in regular, semi-flush or full flush cut. See illustrations at left for examples. The exact cutting characteristics of each plier is given in the description accompanying the individual pliers.



Add "L" to code number when leaf spring is desired. (Available on all models)



## Radius Edges

Wiring pliers are supplied in either radius or beveled edges. radius ground pliers meet NASA requirements.

Add "S" to code number when coil spring is desired. (Available where specified only)

## Hunter Standard Plier Sizes and Dimensions

Standard plier dimensions used in this catalog are as follows: Overall length; Width across joint, "A" in diagram at left; Width thru joint, "D"; Length of tip, "C"; Thickness of tip, "B."

Pa. 4; Stock Nos.	A15A A15AL	A15B A15BL	A36 A36L	A42 A42L	A9 A9L	A16A A16AL	A37 A37L	A43 A43L	A40 A40L	A40 A40L	A14 A14L	A14 A14L	A25 A25L	A5 A5L	A24 A24L	A39 A39L	A41 A41L	A4 A4L	A13 A13L
Plier Shape	Fl. Ns.	Fl. Ns.	Fl. Ns.	Fl. Ns.	Fl. Ns.	Rd. Ns.	Rd. Ns.	Rd. Ns.	Rd. Ns.	Rd. Ns.	Nd. Ns.	Nd. Ns.	Nd. Ns.	Nd. Ns.	Nd. Ns.	Nd. Ns.	Nd. Ns.	Nd. Ns.	Nd. Ns.
Length, Inches	4 1/2	4 1/2	4 1/2	4 1/2	6 1/2	4 1/2	4 1/2	4 1/2	5	6	4 1/2	6	5 1/2	5 1/2	6	6	6	6	5 1/2
"A", Across Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	12/32	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"D", Thru Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"C", Tip Length, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8
"B", Tip Width, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8

☆Curved nose pliers

Pa. 5; Stock Nos.	A17A A17AL	A38 A38L	A410	A11 A11L	A12 A12L	A30E A30EL	A20 A20L	A8 A8L	A44 A44L	A21 A21L	A29 A29L	A387	A22 A22L	A27 A27L	A23 A23L	A11S† A11SL	A7L	A34L	A33L
Plier Shape	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Lg. Ns.	Lg. Ns.	Lg. Ns.	Lg. Ns.	DD. Ed.	Lg. Ns.	Nd. Ns.	Nd. Ns.
Length, Inches	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	5	6	4 1/2	4 1/2	4 1/2	5 1/2	4 1/2	4 1/2	4 1/2	7 1/2	6 1/2	4 3/4	6
"A", Across Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"D", Thru Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"C", Tip Length, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"B", Tip Width, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8

☆Curved Nose Pliers

†Long Nose — Cutter Combination Pliers

‡Long and Needle Nose Transverse Cutting Pliers

Pa. 6; Stock Nos.	A85 A85L	A411	A97 A97L	A99 A99L	A453	A96 A96L	A79 A79L	A80 A80L	A89L	A89L	A89L	A52 A52L	A53 A53L
Plier Shape	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.
Length, Inches	4	4	4	4	5	4 1/2	4	4	4 3/4	5 1/2	6	4	5
"A", Across Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"D", Thru Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"C", Tip Length, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"B", Tip Width, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8

Pa. 6; Stock Nos.	A92 A92L	A95 A95L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L	A96L
Plier Shape	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.	Ta. Dia.
Length, Inches	4	4	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
"A", Across Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"D", Thru Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"C", Tip Length, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"B", Tip Width, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8

Pa. 7; Stock Nos.	A65	A66	A67	A45 A45L	A46 A46L	A93 A93L	A70	A94 A94L	A49L	A45A A45AL	A46A A46AL	A1L	A6L	A98L	A51
Plier Shape	Ob. Np.	Ob. Np.	Ob. Np.	St. Np.	Ob. Np.	St. Np.	Ob. Np.	St. Np.	St. Np.	St. Np.	Ob. Np.	Ch. Ns.	Rd. Ns.	Diag.	Cut.
Length, Inches	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	6 1/2	4 1/2	4 1/2	6 1/2	7	8 3/4	6 1/2
"A", Across Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"D", Thru Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"C", Tip Length, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"B", Tip Width, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8

☆Nipper and Pliers with Long Handles

†Heavy Duty Cutter for Cable Work.

Pa. 8; Stock Nos.	A59 A59L	A86L	A84E A84EL	A95E A95EL	A99E A99EL	A97E A97EL	A97B A97BL	A11B A11BL	A44T A44TL	A38T A38TL	A15C A15CL	A15D A15DL	A54 A54L	A30EA A30EAL	A42R A42RL
Plier Shape	Tp. Dg.	Diag.	Diag.	Diag.	Diag.	Diag.	Diag.	Ch. Ns.	Ch. Ns.	Ch. Ns.	Sq. Ns.	Sq. Ns.	Bend.	Coil.	Bend.
Length, Inches	5	4 3/4	4 3/4	4	4	4	4	4 3/4	4 1/2	4 1/2	4 3/4	4 3/4	15	4 1/2	4 1/2
"A", Across Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"D", Thru Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"C", Tip Length, In.	1 3/8	3/8	3/8	3/8	3/8	3/8	3/8	1 1/8	3/8	3/8	3/8	3/8	1 3/4	3/8	3/8
"B", Tip Width, In.	1/4 x 3/4	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8

☆Pliers Made of Beryllium

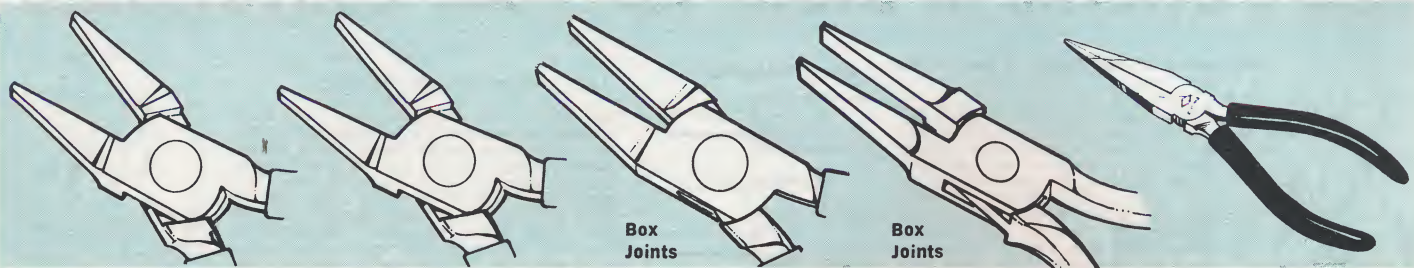
†Pliers with Teflon Jaw Inserts

Pa. 9; Stock Nos.	A90 A90L	A57 A57L	A47 A47L	A44A A44AL	A73 A73L	A150 A150L	A150-1 A150-1L	A152 A152L	A151 A151L	A78 A78L	A68	A35 A35L	A74 A74L
Plier Shape	Tp. Dg.	Tp. Dg.	Ncl. Ns.	Ch. Ns.	Tran.	Diag.	Diag.	Diag.	Tp. Ct.	Ob. Np.	Ob. Np.	Ch. Ns.	Tp. Dg.
Length, Inches	4 3/8	4 1/2	4 1/2	4 1/2	4 1/2	4 3/8	4 3/8	4 3/8	4 3/8	4 1/2	4 1/2	4 1/2	4 1/2
"A", Across Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"D", Thru Joint, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"C", Tip Length, In.	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
"B", Tip Width, In.	1/4 x 3/4	3/8 x 3/8	3/8	3/8	1/4 x 3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8	1/2 x 3/8

☆Pliers with Tool Steel Cutting Edges Inserted in Jaws



# Hunter Flat and Round Nose Electronic Pliers



## 4 1/2-In Flat Nose

For straightening small pins, wires. Handling thin, wafer sheets, smooth jaw — won't mar component, wire. Width across joint, 7/16"; width thru joint, 7/32"; length of tip, 5/32"; width of tip, 7/32". Swiss made.

No. A15A—Without spring.  
No. A15AL—With leaf spring.

## Narrow Jaw Flat Nose

4 1/2-in. long. Same plier as one at left but with narrower jaws for greater precision use. Swiss made. Width across joint, 15/32"; width thru joint, 1/4"; length of tip, 1-25/32"; width of tip, 1/8".

No. A15B—Without spring.  
No. A15BL—With leaf spring.

## Flat Nose, Box Joint

4 1/2-in. long. Precision Swiss made. A tool carefully made for careful work. Will give long service. Box joint. Width across joint, 1/2"; width thru joint, 1/4"; length of tip, 2-7/32"; width of tip, 5/64".

No. A36—Without spring.  
No. A36L—With leaf spring.

## Extra Fine Flat Nose

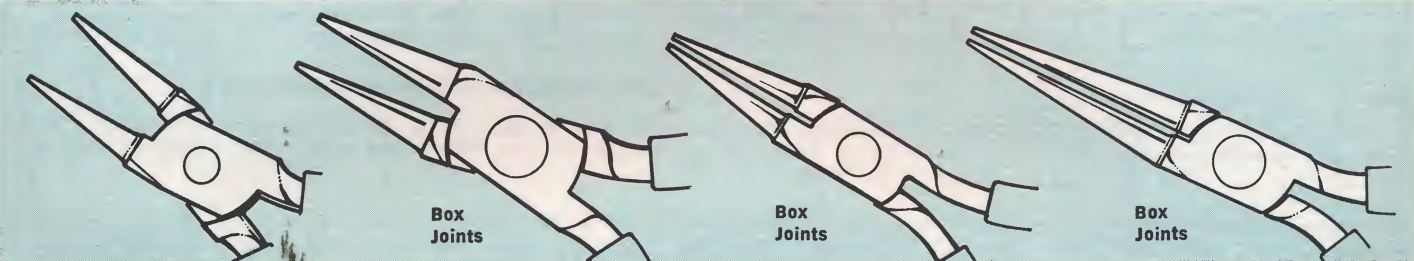
Box Joint. Designed for fine wire bending, parts holding. Precision performer on extremely fine work. Width across joint, 11/32"; width thru joint, 3/16"; length of tip, 27/32"; width of tip, 5/64".

No. A42—Without spring.  
No. A42L—With leaf spring.

## Long Reach Flat Nose

6 1/2-in. long. For moderately heavy work — good in deep receptacles. Full polish, vinyl covered handles. Smooth jaw. Width across joint, 5/8"; width thru joint, 5/16"; length of tip, 2-5/32"; width of tip, 7/8".

No. A9—Regular style.  
No. A9L—With leaf spring.



## 4 1/2-in. Round Nose Plier

For precision forming, looping, curling, coiling of fine wire. Completely round, satin smooth jaws, won't mar fine surfaces. Width across joint, 15/32"; thru joint, 15/64"; length of tip, 3/4"; width of tip, 1/16".

No. A16A—Regular plier.  
No. A16AL—With leaf spring.

## Precision Round Nose

4 1/2-in. long. Precision Swiss made box joint plier. Polished head, vinyl grips. For precision forming of medium sizes wire. Long wearing tool. Width across joint, 15/32"; thru joint, 15/64"; length of tip, 3/4"; width of tip, 1/16".

No. A37—Regular style.  
No. A37L—Plier with leaf spring.

## Extra Fine Round Nose

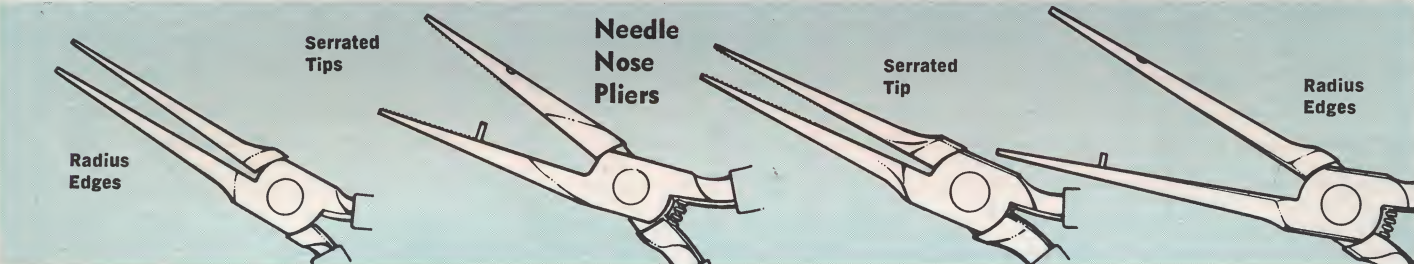
4 1/2-in. long. Beautifully finished box joint tool. For forming small wires — a precise performer on extremely fine work. Vinyl covered handles. Width across joint, 11/32"; thru joint, 3/16"; length of tip, 25/32"; width of tip, 5/64".

No. A43—Extra fine round nose plier.  
No. A43L—Above with leaf spring.

## Extra Long, Fine Points, Two Sizes

5 and 6-in. long. Finely finished, vinyl grips. Have extra long neck to aid visibility in problem areas. For forming, bending and similar work. Strong box joint. Size specs for 5" size (for 6" see pa. 3): Width across joint, 1/2"; thru joint, 7/32"; tip length, 1-13/16"; tip width, 3/32".

No. A40—Regular. 5 or 6-in. State size.  
No. A40L—Above w/leaf spring. State size.



## Extra Long, Needle Nose, Two Sizes

4 1/2 and 6-in. lengths. For forming mechanical connections, component lead bends, hold for solder. For guiding leads thru limited access area. For light work only. Size specs for 4 1/2" size (for 6" see pa. 3.): Width across joint, 13/32"; thru joint, 1/4"; tip length, 1-9/16"; tip width, 1/16".

No. 14—4 1/2 or 6-in. State size wanted.  
No. 14L—Above w/leaf spring. State size.

## Narrow Needle Nose — Dowel Pin

5 1/2-in. long. Similar to plier at left but with serrated jaw which gives positive grip and permits heavier work. Dowel holds jaw in precision alignment. Vinyl grips. Swiss made. Width across joint, 13/32"; thru joint, 1/4"; tip length, 1-23/32"; tip width, 1/16".

No. A25S—With coil spring only.

## Long Narrow Needle Nose

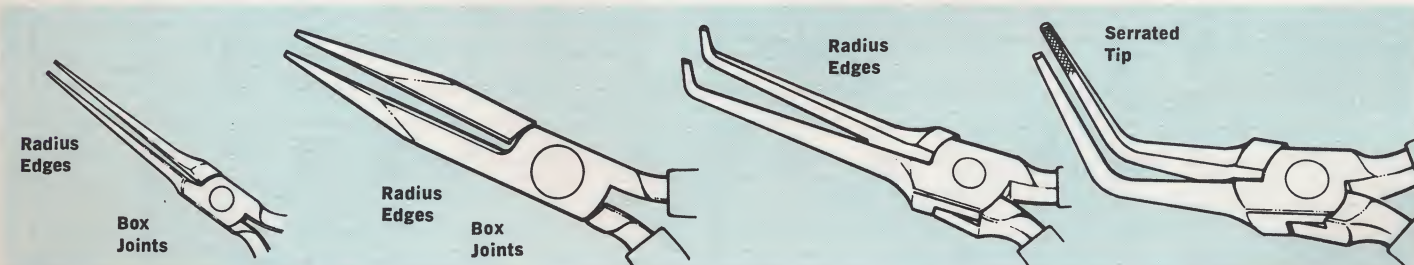
5 1/2-in. long. For high precision pulling and clamping. Serrations give firm grip with minimum pressure. Swiss made. Fine finish with vinyl handle grips. Width across joint, 1/2"; thru joint, 9/32"; tip length, 1-13/16"; tip width, 5/64".

No. A5—Regular long needle nose.  
No. A5L—Above with leaf spring.

## Extra Long—With Dowel Pin

6-in. long. Same plier as No. A14 left side of page. Dowel pin holds precision blade alignment even when twisting slightly heavier wire. Radius ground edges. Width across joint, 15/32"; thru joint, 9/32"; tip length, 2 1/4"; tip width, 1/16".

No. A24S—With coil spring.



## Extra Long, Narrow Needle Nose

6-in. long. Exquisitely made. Vinyl grips. For forming and bending. Has mar free radius edges. Long wearing box joint. Width across joint, 7/16"; thru joint, 9/32"; tip length, 2 1/2"; tip width, 3/64".

No. A39—Extra-long needle nose.  
No. A39L—Above with leaf spring.

## Extra Long Chain Nose

6-in. long. Carefully finished long wearing box joint. Vinyl grips. For forming and bending. Has radius ground, mar-free jaw edges. Width across joint, 3/8"; thru joint, 5/16"; length of tip, 1-17/32"; width of tip, 1/8".

No. A41—Extra-long chain nose.  
No. A41L—Above with leaf spring.

## Ex-long Needle Nose, Curved Tips

6-in. long. For precision pickup, bending, holding small wire and components in extremely limited access areas. Satin smooth jaws with radius edges — mar free on the finest wire. Vinyl grips. Swiss made. Width across joint, 15/32"; thru joint, 9/32"; length of tip, 2"; tip width, 3/32".

No. A4—Ex-long curved tip needle nose.  
No. A4L—Above with leaf spring.

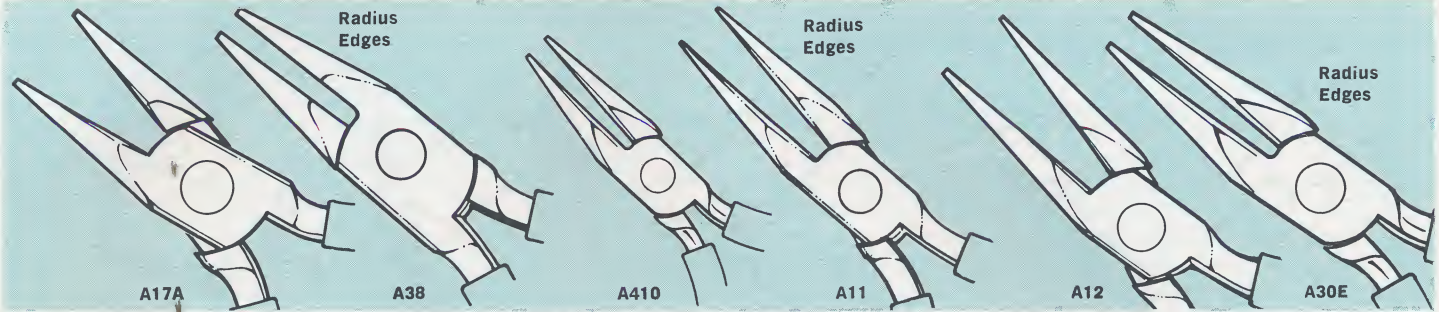
## Long, Curved Needle Nose

5 1/4-in. long with 90 degree angle bend in center. For precision pickup in extremely limited access areas. Tips have positive grip serrations. Width across joint, 15/32"; thru joint, 9/32"; tip length, 1-3/16"; tip width, 1/16".

No. A13—Long curved needle nose.  
No. A13L—Above with leaf spring.



# Individually Inspected Chain Nose Pliers



**Precision Chain Nose Pliers.** 4½-in. long. Like No. A11 at right but shorter nose, beveled edges. Width across joint, 7/16"; thru joint, 15/64"; tip length, ¾"; tip width, 1/16".

No. A17A—Chain nose plier.

A17AL—With leaf spring; A17AS—With coil spring.

**Precision Chain Nose Pliers with Box Joint.** 4½-in. long. For bending medium wire. Forged steel, vinyl grips. Width across joint, 7/16"; thru joint, 15/64"; tip length, ¾"; tip width, 1/16".

No. A38—Regular. No. A38L—With leaf spring.

**Low Priced Chain Nosed Plier.** With serrations. Width across joint, 7/16"; thru joint, 7/32"; tip length, 1-3/32"; width, 3/64".

No. A410—Chain nosed plier. 4¾-in. long.

**Long Narrow Chain Nose Plier.** 4¾-in. long. For precision pick up, looping, twisting, bending finest wire, holds components for solder. Smooth jaw, radius edges will not mar wire. Width across joint, 7/16"; thru joint, ¼"; tip length, 1½"; tip width, 1/16".

No. A11—Narrow chain nose.

A11L—With leaf spring. A11S—With coil spring.

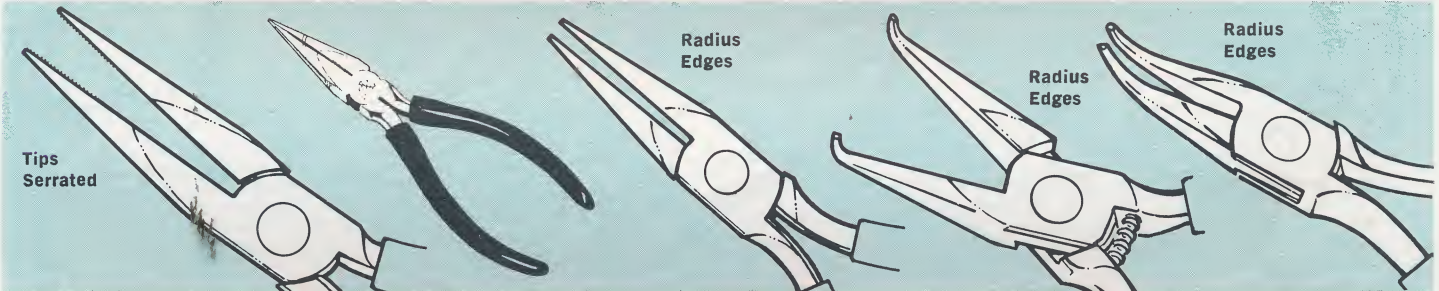
**Long Chain Nose.** 4½-in. long. Same as A11 at left but is not as narrow and has beveled edge. Width across joint, 7/16"; thru joint, ¼"; tip length, 1-1/16"; tip width, 1/16".

No. A12—Long Chain nose.

A12L—With leaf spring. A12S—With coil spring.

**Long Narrow Chain Nose, Radius Edges, Box Joint.** For forming or bending — no marring with radius edges. 4¾-in. long. Width across joint, 7/16"; thru joint, ¼"; tip length, 1½"; tip width, 1/16".

No. A30E—Long chain nose. A30EL—With lf. spng.



## Ex-Long Chain Nose

Three sizes: 4½, 5, 6-in. Specs, 5" size: Width across joint, ½"; thru joint, ¼"; tip length, 1-7/32"; tip width, 3/32".

No. A20—Ex-long chain.

No. A20L—With leaf spring. State plier length wanted.

## Long Chain Nose

6½-in. long. Full polish. Good, low price plier for pulling and bending wire. Width across joint, ¾"; thru joint, 5/16"; tip length 1½"; tip width 3/32".

No. A8—Long chain nose.

No. A8L—With leaf spring.

## Ex-Fine Chain Nose

4½-in. long. For fine wire bending, parts holding. The right tool for fine work. Box joint. Vinyl grips. Width across joint, 11/32"; thru joint, 3/16"; tip length, 29/32"; tip width, 3/64".

No. A44—Ex-fine chain nose.

No. A44L—With leaf spring.

## Chain Nose—Curved Tips

4½-in. long. Long, narrow. Fine for working in angled areas, around corners. Satin smooth jaws; No-Mar radius edges. Width across joint, 13/32"; thru joint, ¼"; tip length, 1"; tip width, 3/64".

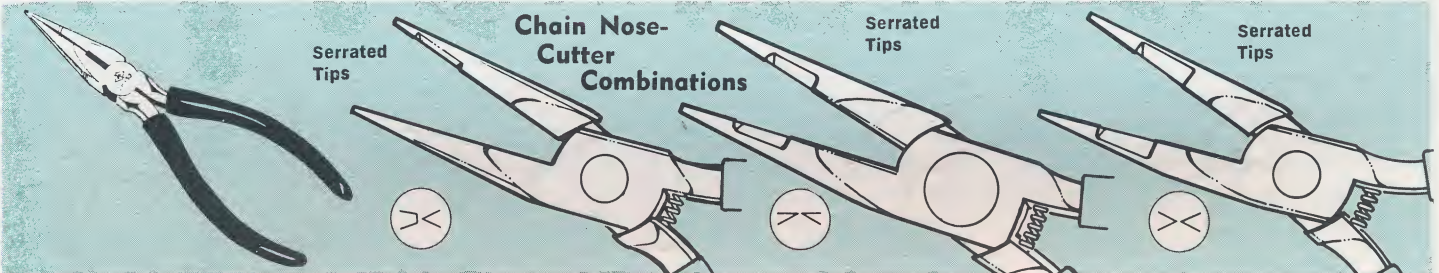
No. A21S—Curved tip chain nose with coil spring.

## Ex-Fine Curved

4½-in. long. For forming and bending small wire; fine performer on delicate work. Box joint, radius edges. Width across joint, 13/32"; thru joint, ¼"; tip length 1", tip width, 3/64".

No. A29—Ex-fine curved.

No. A29L—With leaf spring.



## Chain Nose With Cutter

5¾-in. long. Well made plier which will give good service in general electrical repair and maintenance work. Width across joint, 19/32"; thru joint, 9/32"; tip length, 1-21/32"; tip width, 3/32".

No. A387—Chain Nose with cutter.

## Long Chain with Std. Cutter

4½-in. long. Has regular cutter located farther back for more tip area — tip serrated for pulling jobs. Width across joint, 7/16"; thru joint, 13/64"; tip length, 1-3/32"; tip width 3/64".

No. A22S—Long chain nose and cutter comb. coil spring.

## Ex-Long Chain with Cutter

5½-in. long. Somewhat more rugged than No. A22S at left, cuts wire up to No. 20. Flush type cutter. Serrated tips for pulling. Width of joint, ½"; thru joint, 3/16"; tip length, 1-9/32"; tip width, 1/16".

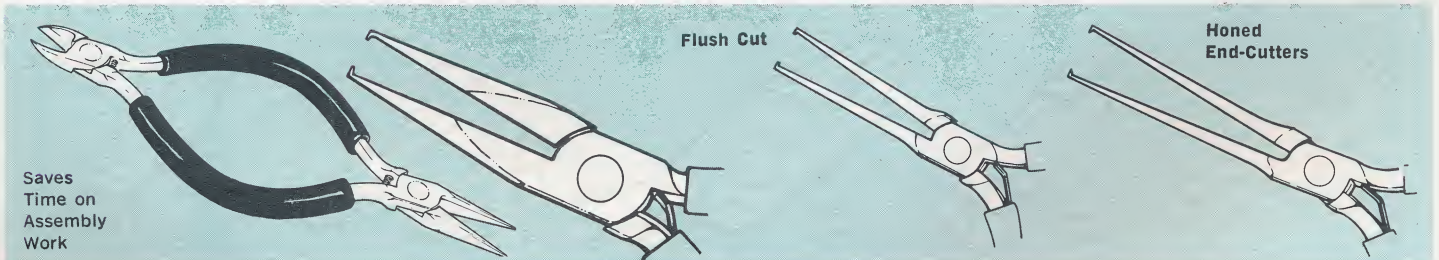
No. A27—Chain-cutter comb.

A27L—W. lf. sprg. A27S—W. cl. sprg.

## Long Chain Nose with Cutter

4½-in. long. Cuts up to No. 22 wire. Anvil type cutter, Works in limited space. Width across joint, 7/16"; thru joint, ¼"; tip length, 1-3/32"; tip width, 3/64".

No. A23S—Long chain nose and cutter with coil spring.



## Double End Assembly Plier

7½-in. long. Two most popular pliers combined for assembly line use. Diagonal is No. A97S, page 6; chain nose is No. A11S, above. Combination eliminates need of laying down and picking up separate tools.

No. A11S-A97S—Double end plier.

## Transverse End Cutter

6½-in. long. Heavy duty, cuts wire up to No. 18. Gives semi-flush cut. Ideal tool for cutting in confined areas. Width across joint, 19/32"; thru joint, 9/32"; tip length, 1-19/32"; tip width, 3/16".

No. A7L—Cutter with leaf spring.

## Needle Nose End Cutter

4¾-in. long. Tiny version of cutter at right. For smaller wire sizes only, will cut flat ribbon wire. Cuts flush, .080 flush end. Works in as little as ¼". Width across joint, 13/32"; thru joint, ¼"; tip length, 1½"; tip width, 3/32".

No. A34L—Trans. cutter. Leaf sprg.

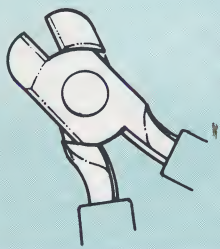
## Transverse End Cutter

6-in. long. Needle nose. Cuts the finest wire up to No. 24. Requires only 3/16" working space — ideal for extremely limited access areas. Cuts flat ribbon wire. .010 flush end. Width across joint, 13/32"; thru joint, 3/32"; tip length, 2¼"; tip width, 3/32".

No. A33L—Trans. cutter, leaf sprg.



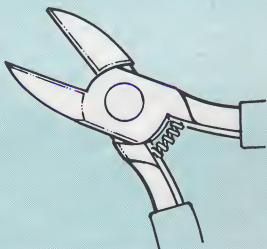
# Hunter Cutting Pliers Cut Easy, Last Long.



**Stub Nose Midget**

4-in. long. Cuts up to No. 18 soft copper wire, fine for snipping fine wire mounted tight on circuit boards. Unique design lets cutting edge outlast conventional cutters 3 to 1. Width across joint,  $\frac{3}{8}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $\frac{5}{32}$ ".

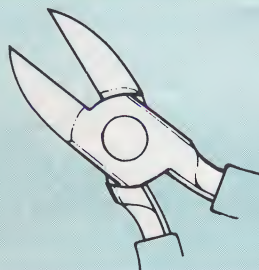
No. A85—Stub Nose cutter.  
No. A85L—With leaf sprg.



**Fine Diagonal**

4-in. long. Most popular cutter on assembly line — cuts at extreme tip. Semi-flush cut. For fine wire work only. No. 22 soft copper wire and smaller. Width across joint,  $\frac{13}{32}$ "; thru joint,  $\frac{7}{32}$ "; tip length,  $\frac{1}{2}$ ".

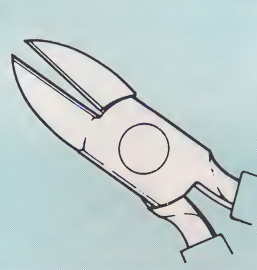
No. A97—Reg., diagonal.  
A97L—Lf. sprg.  
A97S—Cl. sprg.



**Super Fine "Dyke"**

4-in. long. For very fine work; No. 24 soft copper wire and smaller; shaving solder and extended leads in printed circuit work. Gives full flush cut. Width across joint,  $\frac{13}{32}$ "; thru joint,  $\frac{7}{32}$ "; tip length,  $\frac{7}{16}$ "; tip width,  $\frac{1}{64}$ ".

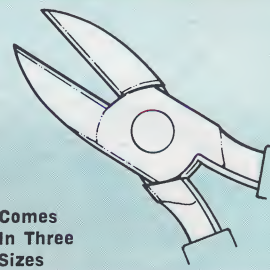
No. A99—Reg. Diagonal.  
A99L—Lf. sprg.  
A99S—Cl. sprg.



**Diagonal**

$\frac{4}{2}$ , 5, 6-in. lengths. General purpose cutter of the electronic industry. Semi-flush cut. Spec. for  $\frac{4}{2}$ " size; width across joint,  $\frac{15}{32}$ "; thru joint,  $\frac{5}{16}$ "; tip length,  $\frac{5}{8}$ "; tip width,  $\frac{1}{32}$ ".

No. A96—Diagonal.  
No. A96L—With leaf sprg.  
State length wanted.



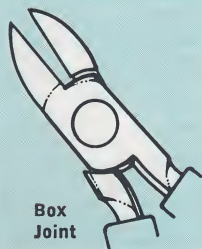
Comes  
In Three  
Sizes

**Low Price Diagonals**

4 or 5 in. Good quality low priced "dykes." General purpose wire cutting in both service and industrial areas. Forged. Two sizes.

No. A453—5-in. long. Width across joint,  $\frac{17}{32}$ "; thru joint,  $\frac{3}{16}$ "; tip length,  $\frac{21}{32}$ ".

No. A411—4-in. long width across joint  $\frac{13}{32}$ "; thru joint  $\frac{7}{32}$ "; tip length,  $\frac{1}{2}$ ".

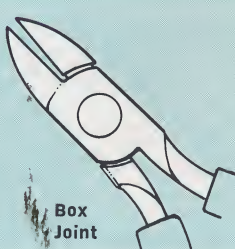


Box  
Joint

**Super Fine Midget**

4-in. long. For No. 24, smaller wire. For very fine work. Box joint. Full flush cut. Ideal for printed circuits. Width across joint,  $\frac{13}{32}$ "; thru joint,  $\frac{7}{32}$ "; tip length  $\frac{7}{16}$ "; tip width,  $\frac{1}{64}$ ".

No. A79—Midget dyke.  
No. A79L—With lf. sprg.

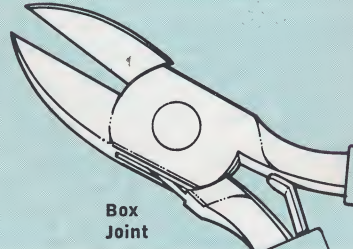


Box  
Joint

**Fine Midget**

4-in. long. For No. 22, smaller wire. For fine work only. Gives semi-flush cut. With long wearing box joint. Width across joint,  $\frac{13}{32}$ " thru joint,  $\frac{7}{32}$ "; tip length,  $\frac{7}{16}$ "; tip width,  $\frac{1}{64}$ ".

No. A80—Fine Midget.  
No. A80L—With lf. sprg.

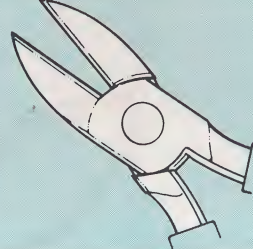


Box  
Joint

**Best Diagonal Plier—3 Sizes**

$\frac{4}{2}$ -in.,  $\frac{5}{2}$ -in. 6-in. lengths. "The workhorse" general purpose cutter for the electronic industry. Swiss made, box joint, finely finished, vinyl handle grips. Size  $\frac{4}{2}$ " spec: Width across joint,  $\frac{17}{32}$ "; thru joint,  $\frac{5}{16}$ "; tip length,  $\frac{5}{8}$ "; tip width,  $\frac{1}{32}$ "; for specs other sizes see Pa. 3.  $\frac{4}{2}$ " for No. 20 wire and smaller,  $\frac{5}{2}$ " for No. 18 to 20, 6" for No. 16 to 18.

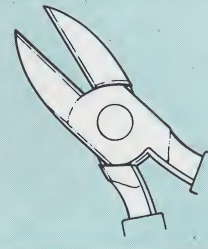
No. A89L—With lf. sprg. State length.



**Midget Hard Jaw**

4-in. long. For hard wire No. 22 or smaller. Regular cutting edge. Small dyke for hard service. Width across joint,  $\frac{17}{32}$ "; thru joint,  $\frac{9}{32}$ "; tip length,  $\frac{21}{32}$ "; tip width,  $\frac{3}{64}$ ".

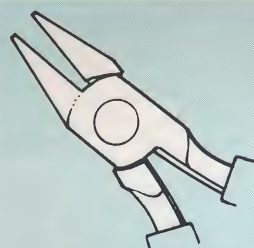
No. A52—Mid. Hard Jaw.  
No. A52L—With lf. sprg.



**Regular Hard Jaw**

5-in. long. For hard wire No. 20 or smaller. Regular cutting edge. Rugged, extra-heavy dyke. Vinyl grips. Width across joint,  $\frac{19}{32}$ "; thru joint,  $\frac{13}{32}$ "; tip length,  $\frac{25}{32}$ "; tip width,  $\frac{1}{16}$ ".

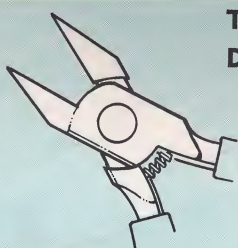
No. A53—Reg. Hard Jaw.  
No. A53L—With lf. sprg.



**Super Fine, Taper Jaw Dyke**

4-in. long. For extremely fine wire, No. 24 soft copper wire. Cuts at extreme tip, gives full flush cut. Shape allows reaching into confined areas. Width across joint,  $\frac{7}{32}$ "; thru joint,  $\frac{1}{8}$ "; tip length,  $\frac{1}{2}$ "; tip width,  $\frac{3}{64}$ ".

No. A92—Super Fine Taper Jaw.  
No. A92L—Lf. sprg. ....  
No. A92S—With cl. sprg.

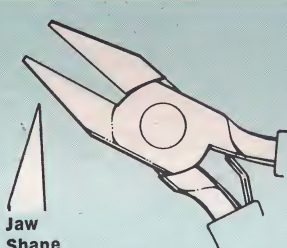


**Fine Taper Jaw Dyke**

4-in. long. For No. 22 soft copper wire and smaller. Cuts at extreme tip. Gives full flush cut. Tapered tip allows reaching into confined areas. Width across joint,  $\frac{7}{32}$ "; thru joint,  $\frac{7}{32}$ "; tip length,  $\frac{1}{2}$ "; tip width,  $\frac{3}{64}$ ".

No. A95—Fine Taper Jaw Dyke.  
No. A95L—W. lf. sprg.  
No. A95S—W. cl. sprg.

**Taper Jaw  
Diagonals**

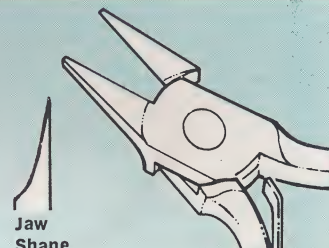


Jaw  
Shape

**Taper Jaw Diagonal — 4 Sizes**

$\frac{4}{2}$ -in.,  $\frac{4}{2}$ -in. 5-in. 6-in. lengths for every cutting need. Semi-flush cut. Use  $\frac{4}{2}$ "- $\frac{4}{2}$ " for 20-22 gauge wire, 5" for No. 18-20, 6" for No. 16-18. Size specs for  $\frac{4}{2}$ " length are: width across joint,  $\frac{1}{2}$ "; thru joint,  $\frac{9}{32}$ "; tip length,  $\frac{5}{8}$ "; tip width,  $\frac{1}{16}$ ". See page 3 for specs other sizes.

No. A86L—State length wanted.

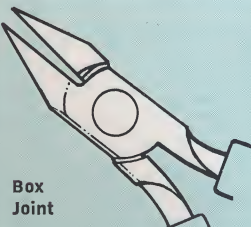


Jaw  
Shape

**Finest Thin Taper Jaw Dyke**

$\frac{4}{2}$ -in. long. Has special grind as shown. Will reach many areas cutter like No. A92 at left will reach and will cut up to No. 20 wire. Gives full flush cut. Carefully finished, hand honed cutters. With leaf spring. Width across joint,  $\frac{1}{2}$ "; thru joint,  $\frac{5}{16}$ "; tip length,  $\frac{9}{16}$ "; tip width,  $\frac{3}{64}$ ".

No. A84L—Finest Thin Taper Jaw.

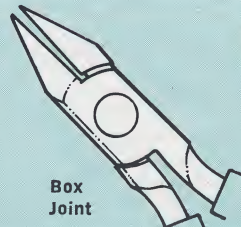


Box  
Joint

**Super Fine Midget**

4-in. long. Fine tapered jaw for No. 24 or smaller wire. Full flush cut. Box joint for long wear. Width across joint,  $\frac{7}{32}$ "; thru joint,  $\frac{1}{8}$ "; length of tip,  $\frac{1}{2}$ "; width of tip,  $\frac{3}{64}$ ".

No. A76—Super Fine Midget.  
No. A76L—With lf. sprg.

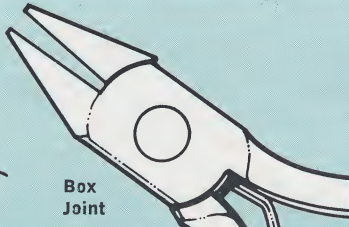


Box  
Joint

**Very Fine Midget**

4-in. long. Tapered jaws give full flush cut. Box joint. Designed for use on stranded wires No. 22, smaller. Width across joint,  $\frac{3}{64}$ "; thru joint,  $\frac{3}{64}$ "; tip length,  $\frac{1}{2}$ "; tip width,  $\frac{3}{64}$ ".

No. A77—Very fine midget.  
No. A77L—With lf. sprg.

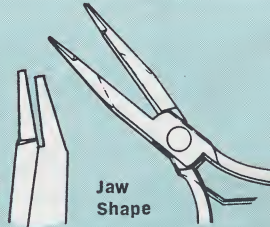


Box  
Joint

**Finest Diagonal**

$\frac{4}{2}$ -in. long. Tapered jaw. Reaches limited access spots. For No. 20-22 wire or smaller. Box joint, long wearing. Width across joint,  $\frac{1}{2}$ " thru joint,  $\frac{9}{32}$ "; tip length,  $\frac{5}{8}$ "; tip width,  $\frac{1}{16}$ ".

No. A83L—With leaf sprg.

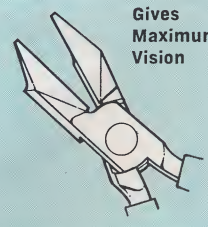


Jaw  
Shape

**Printed Circuit Cutter**

$\frac{5}{2}$ -in. Long neck, cutter on curved end, gives flush cut on printed circuits. For No. 22 and smaller wire. Width across joint,  $\frac{13}{32}$ "; thru joint,  $\frac{9}{32}$ "; tip length,  $\frac{1}{19}$ "- $\frac{1}{32}$ "; tip width,  $\frac{3}{32}$ ".

No. A81—Angle cutter.  
No. A81L—With lf. sprg.



Gives  
Maximum  
Vision

**Side Cutter — 2 Sizes**

4-in., 5-in. lengths. Angle allows maximum vision — does things no other cutter can. For No. 22 wire and smaller. Width across joint,  $\frac{7}{16}$ "; thru joint,  $\frac{9}{32}$ "; tip length,  $\frac{25}{32}$ "; tip width,  $\frac{3}{32}$ ".

No. A91—State size wanted.  
No. A91L—Lf. sprg.  
No. A91S—Cl. sprg.



# Screw Joint Nippers For "Fussy" Work

- Forged in Switzerland from high carbon tool steel.
- Beautifully precision finished to let users do the "fussiest" most careful work.
- Honed cutting edges are sharp and accurate. Stay sharp for longer periods — give full flush cut.
- Screw joint type allows easy accurate resharpening.

These nippers are made in the finest Swiss tradition, forged from high carbon tool steel, heat treated and hardened to the proper Rockwell hardness. Every tool hand finished for fine appearance and fine action. Hand honed cutters are sharp, will stay sharp but screw joint constructing allows disassembly for easy and accurate resharpening. All nippers 4½-in. long.

**No. A65**—Oblique head nipper, straight handles.

**No. A66**—Oblique head nipper, bowed handles.

**No. A67**—Oblique head, cutter pointed on both ends.

**Extra Fine Nipper. Full Flush Cut. 4½-in. Long.**

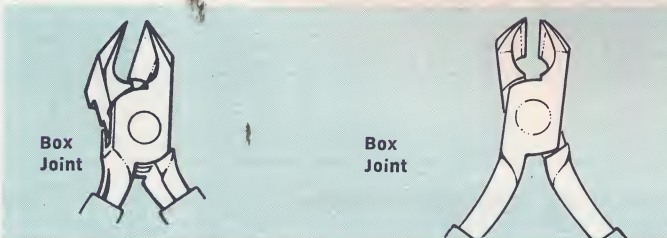
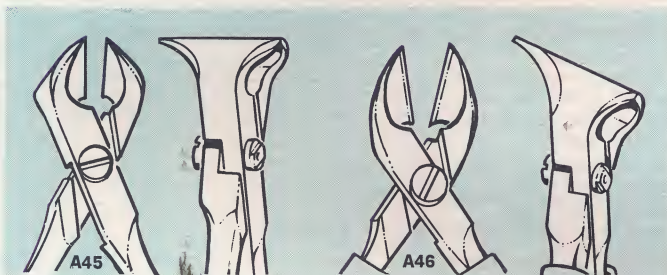
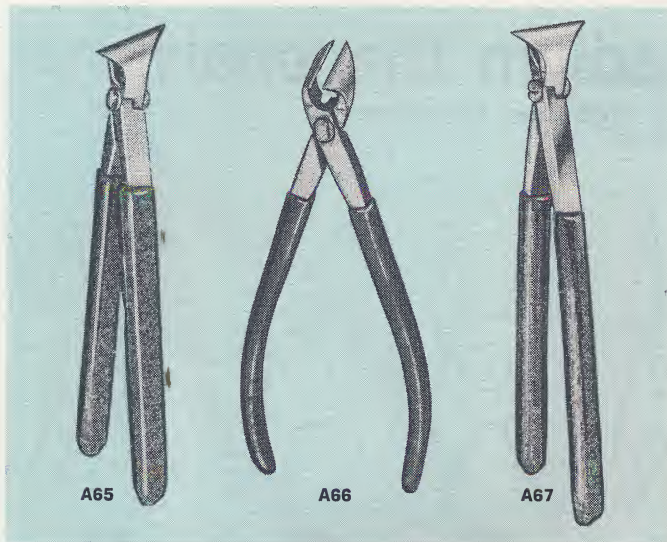
For No. 24 wire or smaller. For reaching into limited access areas, around printed circuits and for micro-miniature work. Width across joint, ½"; thru joint, ¼"; tip length, ⅜"; tip width, ⅜".

**No. A45**—Extra-fine nipper. **No. A45L**—Nipper with leaf spring.

**Extra Fine Oblique Nipper. Full Flush Cut. 4½-in. Long.**

For No. 24 or smaller wire. Perfect for printed circuit work. Special design allows cutting edges to outlast ordinary one 5 to 1. Width across joint, ½"; thru joint, ¼"; tip length, ⅜"; tip width, ⅜".

**No. A46**—Extra fine Oblique nipper. **No. A46L**—With leaf spring.



**Extra-Fine Nipper, Full Flush**  
4½-in. long. For No. 22 wire or smaller. Ideal for printed circuit work. Box joint for long wearing. Width across joint, 7/16"; thru joint, 9/32"; tip length, 7/8"; width, 1/32".

**No. A93**—Extra-fine nipper.  
**No. A93L**—With leaf spring.

**Oblique Nipper, Full Flush**  
4½-in. long. Box joint. Similar to nipper at right but smaller finer head. For circuit boards, micro miniature work, similar delicate jobs. Width across joint, 3/8"; thru joint, 3/4"; tip length, 19/32".

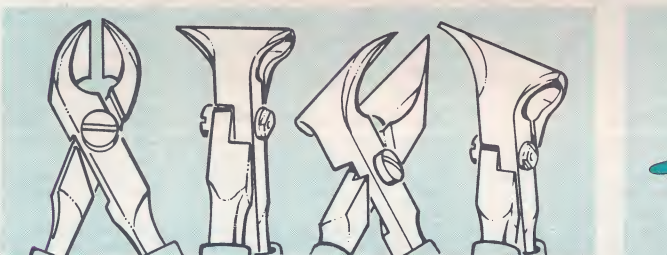
**No. A70**—Oblique nipper.  
**No. A70L**—With leaf spring.

**Extra-fine Oblique, Full Flush**  
4½-in. long. Box joint. Cuts No. 22 or smaller wire. Cutting tip visible even in confined areas. For circuit, miniature work. Width across joint, 7/16"; thru joint, 9/32"; tip length, 7/8"; width, 1/32".

**No. A94**—Extra-fine oblique.  
**No. A94L**—With leaf spring.

**Very Long Cutter Nipper, Full Flush Cut**  
6¾-in. long. Oblique type with extended cutting edge as shown in above picture. Cuts No. 22 wires and smaller. Long handle allows cutting flush in deep areas. Good for deep chassis or circuit drawer work. Precision made with jewelers box joint, hand precision fitted for easy operation. Width across joint, 13/32"; thru joint, ¼"; tip length, ⅞"; tip width, 1/32".

**No. A99L**—Very long Nipper with leaf spring.

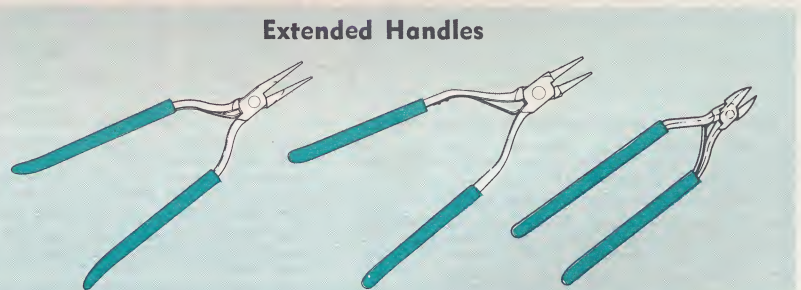


**Extra-fine End, Hard Jaw**  
4½-in. long. Semi-flush cut on No. 26 or smaller hard wire. For printed circuits, micro-miniature work. Tip visible cutting in confined areas. Width across joint, ½"; thru joint, ¼"; tip length, ⅜"; width, ⅜".

**No. A45A**—Extra-fine end.  
**No. A45AL**—With leaf spring.

**Extra-fine Oblique, Hard Jaw**  
4½-in. long. Semi-flush cut on No. 26 or smaller hard wire. Similar to No. A45A at left but oblique head. Gives very visible cut. Width across joint, ½"; thru joint, ¼"; length of tip, ⅞"; tip width ⅜".

**No. A46A**—Extra-fine oblique.  
**No. A46AL**—With leaf spring.



**6¾-in. Long Chain Nose**  
Same head A11, pa. 5. Long handle permits work in normally inaccessible spots. Width across joint, 7/16"; thru joint, 7/32"; tip length, 1½"; tip width, 3/64".

**No. A11L**—With leaf spring.

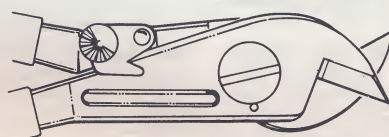
**7-in. Long. Narrow Round Nose**  
Same head as A16A, Pa. 4. Long handle for looping, bending in tight spots. Width across joint, 15/32"; thru joint, 15/64"; tip length, 25/32"; tip width, 1/16".

**No. A6L**—With leaf spring.

**6¾-in. Long Midget Diagonal**  
Same as A97, Pa. 6. For No. 22 soft copper wire or smaller. For deep drawer use. Width across joint, ⅝"; thru joint, 7/32"; length tip, ⅝"; tip width, 1/32".

**No. 98L**—With leaf spring.

## Heavy Duty Cable Cutter for Heavy Cutting



Cuts material up to two times heavier than the heaviest duty diagonals. Ideal for coaxial cable. Has shearing action — does not smash work. Forged steel blades properly hardened, hand fitted and hand honed. Width across joint, 1"; thru joint, 13/32"; tip length, 21/32".

**No. A51-6½**—Heavy duty cable cutter 6½".

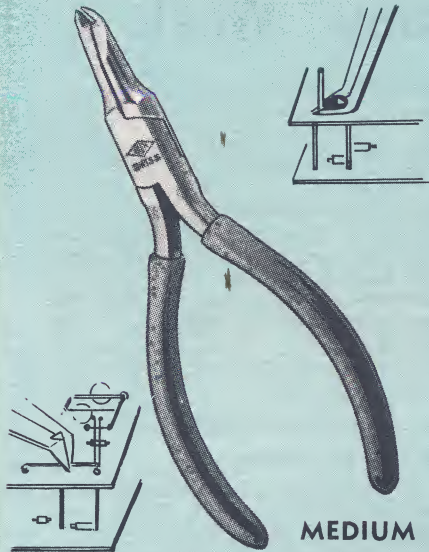
**No. A51-9**—Very heavy duty cable cutter 9".

All pliers, unless otherwise specified, shipped in units of one.



# Eremadium Diagonals

(Chrome Vanadium)



MEDIUM

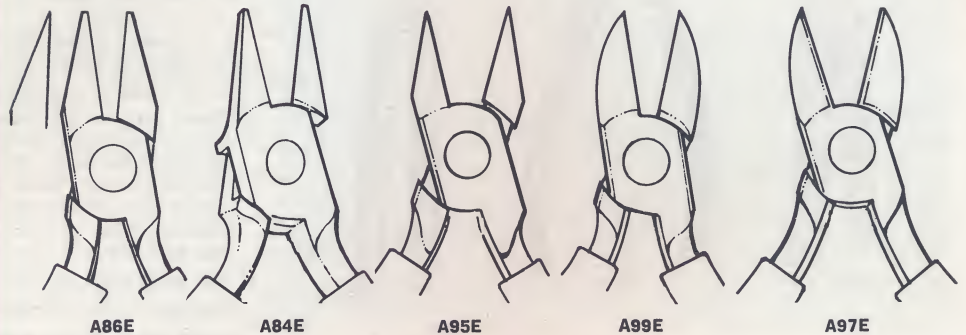
## New Tip-O-Dyke

- Give perfect visibility while making cuts.
- Cuts in any position. Ideal for all electronic assembly.

5-in. long. Cuts soft wire No. 20 and smaller with maximum visibility. Carefully finished. Has vinyl grips. Width across joint  $\frac{1}{2}$ "; thru joint,  $\frac{5}{16}$ "; tip length,  $\frac{13}{32}$ "; tip width,  $\frac{1}{4} \times \frac{1}{4}$ ".

No. A59—Tip-O-Dyke.

No. A59L—Above with leaf spring.



## Give Maximum Wear Under the Most Difficult Conditions

Our best. Forged from Chrome-vanadium alloy steel, best cutting plier steel ever developed. Hard to make but worth the result. Heat treated, hardened, will cut flat nickel wire. Each plier hand fitted, cutters hand honed, every plier operates smoothly. High polish heads, vinyl coated grips.

No. A86E—4 $\frac{1}{4}$ -in. long. Cuts at tip. Tapered tip shape. Full flush cut.

No. A86EL—Same as above but with leaf spring.

No. A84E—4 $\frac{1}{4}$ -in. long. Cuts at tip. Recessed tip shape. Full flush cut.

No. A84EL—Same as above but with leaf spring.

No. A95E—4-in. long. Same shape as No. A86E but smaller head. Full flush cut.

No. A95EL—Same as above but leaf spring.

No. A99E—4-in. long. Standard diagonal shape. Full flush cut.

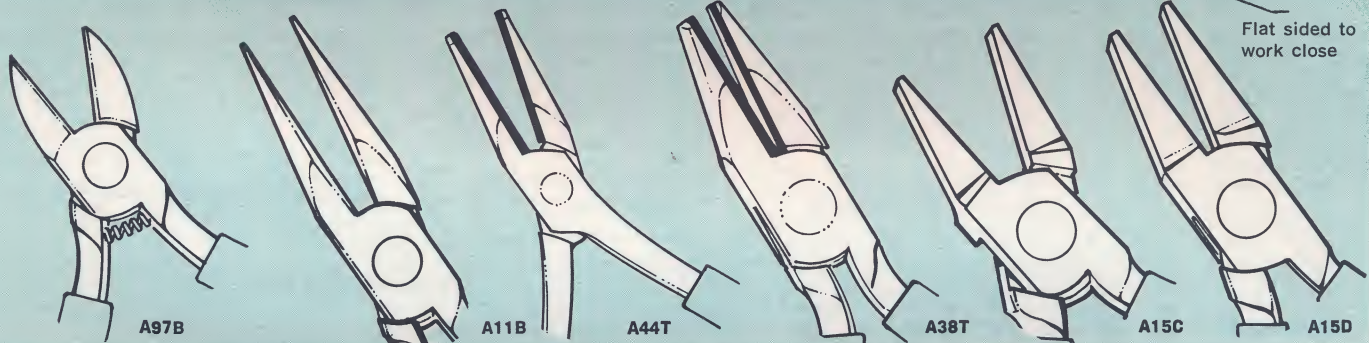
No. A99EL—Same as above but with leaf spring.

No. A97E—4-in. long. Standard diagonal. Like No. A99E but semi-flush cut.

No. A97EL—Same as above but leaf spring.

	A86E A86EL	A84E A84EL	A95E A95EL	A99E A99EL	A97E A97EL
Width across joint	1/2"	1/2"	3/8"	13/32"	13/32"
Width thru joint	5/16"	5/16"	7/32"	7/32"	7/32"
Tip length	5/8"	9/16"	1/2"	7/16"	1/2"
Tip width	1/16"	3/64"	1/32"		

## Special Purpose Pliers Will Help Solve Many Assembly Problems



Flat sided to work close

### Non-sparking, Non-magnetic Beryllium Pliers

No. A97B—4-in. long. Diagonal cutter for non-ferrous wire only. Width across joint,  $\frac{7}{16}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $\frac{9}{16}$ ".

No. A97BS—Above plier with coil spring.

No. A11B—4 $\frac{1}{4}$ -in. long. Chain nose for bending, looping. Width across joint,  $\frac{7}{16}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $1\frac{1}{8}$ "; tip width  $\frac{1}{16}$ ".

No. A11BS—Above plier with coil spring.

### Teflon Jaw Insert Pliers

For use where no metal can touch wire. Box joints.

No. A44T—Small chain nose plier, 4 $\frac{1}{2}$ -in. long. For restricted areas. Width across joint,  $\frac{5}{16}$ "; thru joint,  $\frac{3}{16}$ "; tip length,  $\frac{3}{4}$ "; tip width,  $\frac{3}{32}$ ".

No. A44TL—Same as above but leaf spring.

No. A38T—Regular chain nose. 4 $\frac{1}{2}$ -in. long. Width across joint,  $\frac{7}{16}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $\frac{7}{8}$ "; tip width,  $\frac{3}{8}$ ".

No. A38TL—Same as above but with leaf spring.

### Flat Sided Pointed Plier, For Very Close Work

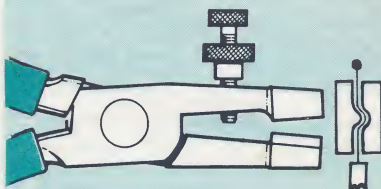
Allows getting plier point close to work — gives great visibility. Carbon steel. 4 $\frac{1}{4}$ -in. long.

No. A15C—Regular ground jaws. Width across joint,  $\frac{1}{2}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $\frac{7}{8}$ "; width,  $\frac{1}{16}$ ".

No. A15CL—Same as above but with leaf spring.

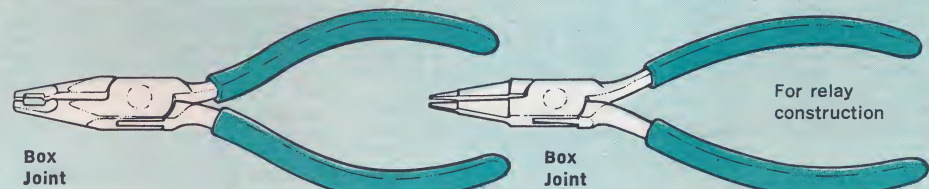
No. A15D—Radiused jaws. Width across joint,  $\frac{1}{2}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $\frac{7}{8}$ "; tip width,  $\frac{1}{16}$ ".

No. A15DL—Same as above but with leaf spring.



No. A54—Resistor Wire Bending Plier. 5-in. long. Put semi-circular bend in wire for relief of heat expansion. Time saver in circuit work. Width across joint,  $\frac{17}{32}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $1\text{--}3\frac{1}{64}$ "; tip width,  $\frac{3}{8}$ ".

No. A54L—Plier with leaf spring.



No. A30EA—Terminal Wire Coiling Plier. 4 $\frac{1}{2}$ -in. long. For coiling wire around terminal in one operation. Time saver. With long wearing box joint. Width across joint,  $\frac{7}{16}$ "; thru joint,  $\frac{1}{4}$ "; tip length,  $\frac{9}{16}$ "; tip width,  $\frac{5}{32}$ ".

No. A30EAL—Same plier as above with leaf spring.

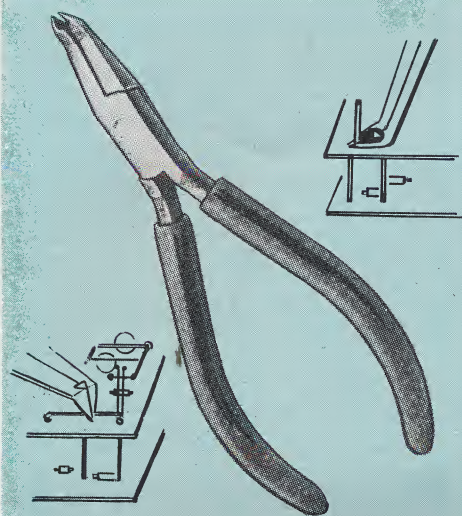
No. A42R—"Relay Construction" Flat Needle Nose Plier. 4 $\frac{1}{2}$ -in. long. For bending stiff small wire in relay work in limited space. With box joint. Width across joint,  $\frac{16}{32}$ "; thru joint,  $\frac{7}{32}$ "; tip length,  $\frac{15}{16}$ "; tip width,  $\frac{3}{64}$ ".

No. A42RL—Same as above but with leaf spring.



# New! Pleezers!

Not a Plier! Not a Tweezer! But a New Idea in Tools for the Electronics Industry. Combines the Good Qualities of both Pliers and Tweezers into One Tool!



## New! Tip-O-Dyke

- Gives maximum visibility when cutting nickel wire.
- Ideal for use on modular work.

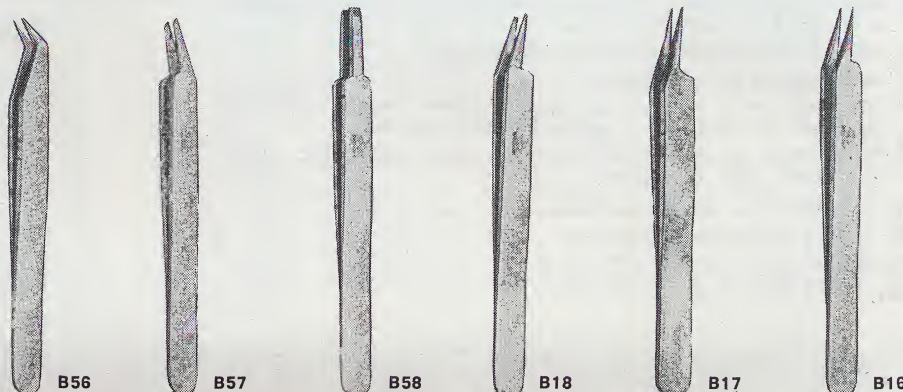
4 $\frac{1}{2}$ -in. long. Designed to cut at tip with perfect angle for maximum visibility. Width across joint, 7/16"; thru joint, 1/4"; tip length, 1/4"; tip width, 3/8".

No. A90—Tip-o-Dyke small size.

No. A90L—Above with leaf spring.

No. A57—Tip-o-Dyke very small size. Tip length 1/8" box joint.

No. A57L—Above with leaf spring.



Pleezers have the Correct Torque for Handling Nickel Wire. Ideal for following the tracings on Modular Components.

Here is a bright new idea in tools for use in the electronic industries. Tools strong enough to cope with nickel wire, yet fine enough to be used under microscopes. Ideal for use on welded modular components.

Pleezers are made from high carbon steel by skilled and experienced Swiss tweezer craftsmen. They are 4 $\frac{1}{2}$ -inches long. All are carefully hand fitted for exact match of points — there is no finer tool workmanship anywhere. Packed units of 1.

No. B56—Angle nose pleezer for close shaping.

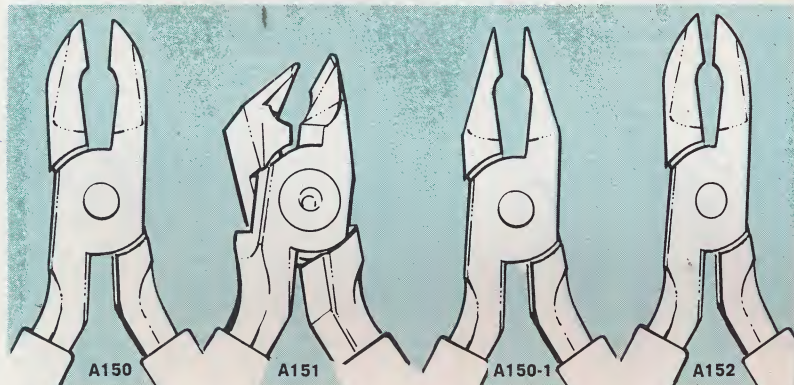
No. B57—Flat nose pleezer for close shaping.

No. B58—Straight flat nose pleezer for straightening.

No. B18—Flat nose pleezer for shaping or straightening.

No. B17—Chain nose pleezer for forming.

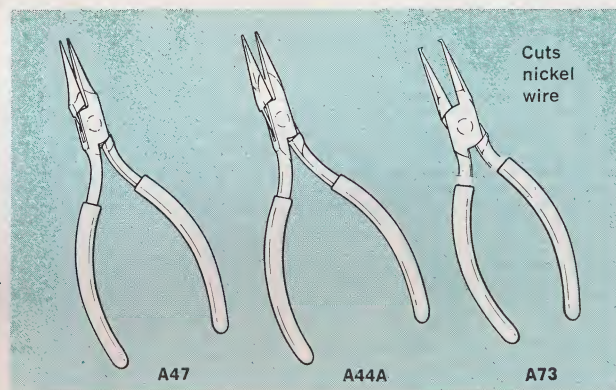
No. B16—Round nose pleezer for loop work.



Cutting Pliers with Tool Steel Jaw-Inserts for Cutting Nickel Wire

American made. With shimmed joints for precision point matching and for ease of repair. No. 150 is basic diagonal plier. No. 150-1 similar but with slim, narrow nose. No. 152 small diagonal. No. A151 is end nipper. Number marked with "L" suffix come with leaf spring.

Stock No.	Type Plier	Length	Visib. Angle	Width Joint	Thru Joint	Tip Length	Tip Width	Cut H	Wire M	Size S
A150, A150L	Diag.	4 $\frac{5}{8}$ "	180	7/16"	9/32"	19/32"		.012	.025	.032
A150-1, A150-1L	Diag.	4 $\frac{5}{8}$ "	50	7/16"	9/32"	9/16"	3/64"		.020	.025
A152, A152L	Diag.	4 $\frac{5}{8}$ "	0	3/8"	1/4"	15/32"				
A151, A151L	Nip.	4 $\frac{5}{8}$ "		7/16"	9/32"		3/64"		.020	.025



Slimmest Plier Made

Slim Transverse

No. A47—4 $\frac{1}{2}$ -in. long. Super slim needle nose. Width across joint, 5/16"; thru joint, 3/16"; tip length, 15/16"; tip width, 1/32".

No. A47L—Above with leaf spring.

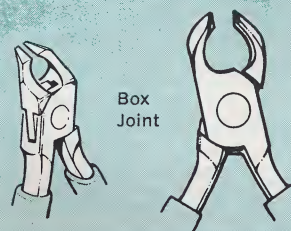
No. A44A—4 $\frac{1}{2}$ -in. long. Super slim chain nose. Width across joint, 1/4"; thru joint, 5/32"; tip length, 15/16"; tip length, 15/16"; tip width, 1/32".

No. A44AL—Above with leaf spring.

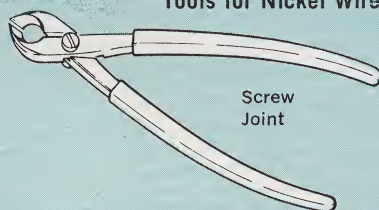
No. A73 — 4 $\frac{1}{2}$ " long. Tip cut. For nickel wire, modular component work. Across joint, 15/32"; thru joint, 1/4"; length tip, 31/32"; width tip, 1/8x3/32".

No. A73L—W/spring.

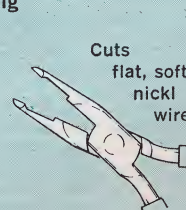
## Tools for Nickel Wire Cutting



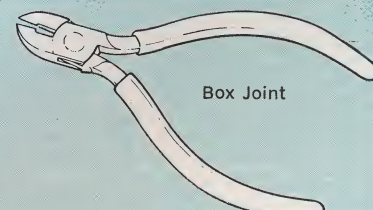
Box Joint



Screw Joint



Cuts flat, soft nickel wire



Box Joint

### Tip Cutting Oblique Nippers

No. A78—4 $\frac{1}{2}$ -in. long. Ideal for snipping soft, flat nickel wire; for welded module work. Width across joint, 7/16"; thru joint, 9/32"; tip length, 9/32"; tip width, 1/8".

No. A78L—With leaf spring.

### Tip Cut Oblique Nipper, Screw Joint

No. A68—4 $\frac{1}{2}$ -in. long. Similar to tool at left but thinner. Easy to resharpen. Width across joint, 7/16"; thru joint, 3/16"; tip length, 7/32"; tip width, 1/32".

No. A68L—Above with leaf spring.

### Chain Nose Oblique End

No. A35—4 $\frac{1}{2}$ -in. long. For end flush cutting at a 45 degree angle. Width across joint, 13/32"; thru joint, 7/32"; tip length, 13/16"; tip width, 1/8".

No. A35L—Above with leaf spring.

### Tip Cutting Midget Diagonal

No. A74—4-in. long. For cutting flat nickel wire used in module work. Has box joint assuring long wear. Width across joint, 3/8"; thru joint, 7/32"; tip length, 1/2-5/32".

No. A74L—Above with leaf spring.



# World's Finest Tweezer

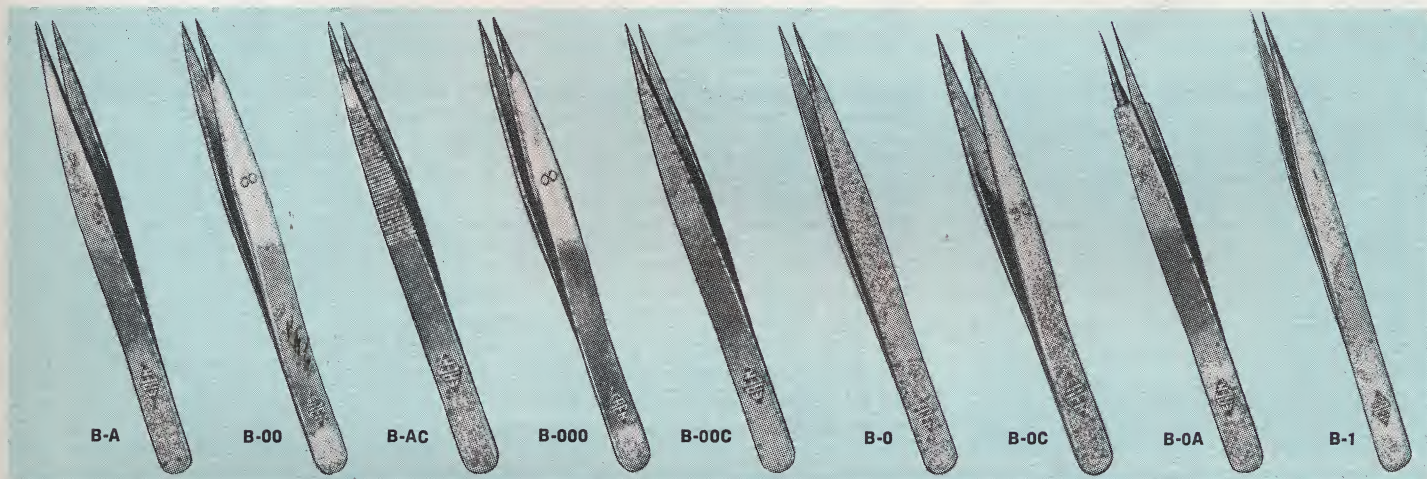
- Made in Most Wanted Dumont Styles.
- Made from Superior High Carbon Steel.
- Hand Fitted by Swiss Craftsmen With Over 30 Years Experience in making fine Tweezers.
- Points Guaranteed Parallel, Even and Sharp.
- Have Extreme Light Tension.
- New heat treat method on points, makes points safe from scratches by abrasives used in cleaning tweezers.
- Points stand up during use under processes where 535 degree centigrade heat is applied.

No. B-3CM3—4½-in. long. Fine points.

No. B-3M3—4½-in. long. Fine points.

No. B-5M3—4¼-in. long. Needle points.

No. B-7M3—4¼-in. long. Needle points.



No. B-A — 4½-in. long. Carbon steel. Heavy blade for working fine wire where pliers are too bulky.

No. B-00 — 4½-in. long. Carbon steel. Extra heavy blade for working with fine wire.

No. B-AC—4½-in. long. Carbon steel. Medium duty blade. Outside serrated for better grip.

No. B-000—4½-in. long. Same as No. B-00 above, but has radius ground edges to prevent marring of wire in looping and bending operations.

No. B-00C — 4¼-in. long. Same as No. B-AC above but has no finger serrations on outside.

No. B-0—4½-in. long. Carbon steel. Has heavy blades for working with fine wire.

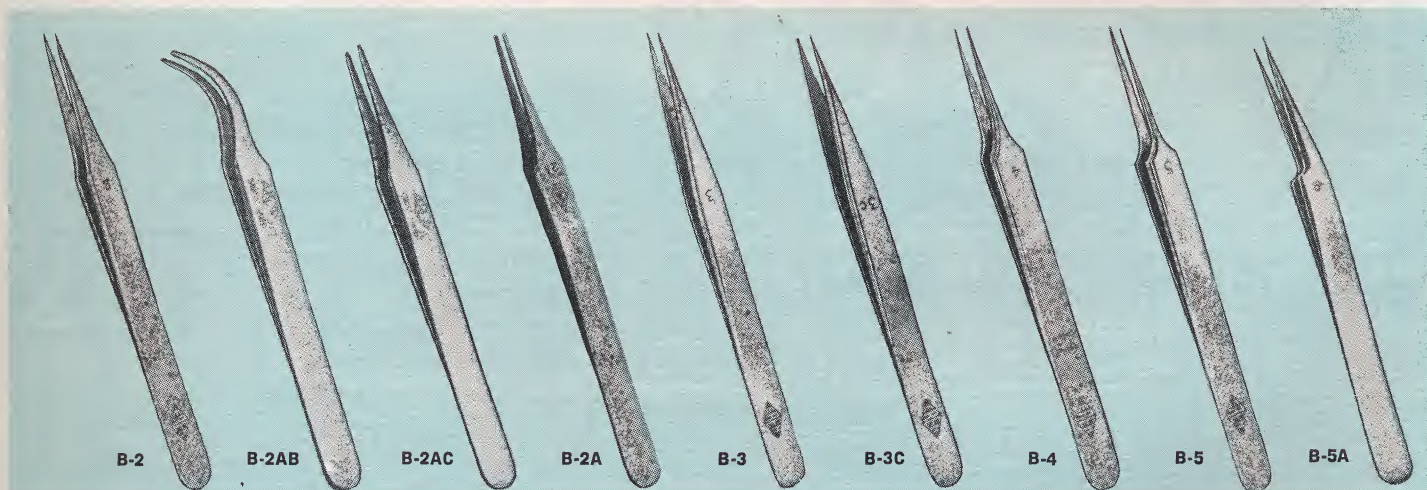
No. B-0C—3½-in. long. Carbon steel. For wire work.

No. B-0CSA—Same tweezer as No. B-0C but made from stainless, anti-acid, non-magnetic steel. Resistant to mixtures of hydrofluoric and nitric acids.

No. B-0A—4½-in. long. Carbon steel. Heavily made tool with specially ground precision points.

No. B-1—4½-in. long. Carbon steel. Regular points for general use, holding small parts.

**Note:** All stainless and anti-acid steel tweezers can be Teflon coated with 1½ mil coating 1½-in. up the tip. Minimum order 12, add "EF" to stock number if Teflon coating is wanted. Teflon coating makes tweezer points mirror smooth. Not recommended on fine points.



No. B-2—4½-in. long. Carbon steel. Medium points. For handling flat surfaces.

No. B-2SA—Same as No. B-2 but stainless, anti-acid, non-magnetic steel. Resists hydrofluoric and nitric acids.

No. B-2S—Same as No. B-2 but stainless steel.

No. B-2AB—4½-in. long. Nickel silver steel. For handling Germanium wafers.

No. B-2AC—4½-in. long. Nickel silver steel. For handling Germanium wafers.

No. B-2A—4½-in. long. Carbon steel. Most popular tweezer in the semi-conductor industry. Flat, spoonlike tips picks up and securely holds wafers.

No. B-2ASA—Same as No. B-2A but stainless, anti-acid, non-magnetic steel.

No. B-2ACA—Same as No. B-2A but stainless steel — Carpenter No. 20. Non-magnetic, will resist acids. Stands high heat.

No. B-3—4½-in. long. Carbon steel. Fine points.

No. B-3S—Same as No. B-3 but stainless steel.

No. B-3SA—Same as No. B-3 but stainless, anti-acid. Resists hydrofluoric and nitric acids.

No. B-3C—4¼-in. long. Carbon steel.

No. B-3CS—Same as No. B-3C but stainless steel.

No. B-3CSA—As above but stainless, anti-acid.

No. B-3CCA—As above but Carpenter No. 20 steel. Stainless, acid-resistant, non-magnetic, heat resistant. Used in semi-conductor etching.

No. B-3CTA—As above but Titanium steel. Will not retain magnetism, resists temperatures to 1,000 degrees.

No. B-4—4½-in. long. Carbon steel, fine points.

No. B-4S—As above but stainless.

No. B-4SA—As above but stainless, anti-acid.

No. B-4CA—As above but Carpenter No. 20 steel. Magnetic acid and heat resisting.

No. B-5—4½-in. long. Carbon steel. Ex-fine points.

No. B-5S—As above but stainless steel.

No. B-5SA—As above but stainless, anti-acid.

No. B-5CA—As above but Carpenter No. 20 steel. Stainless, non-magnetic, acid and heat resisting.

No. B-5A—4½-in. long. Carbon steel. New point angle makes pickup easy.



# "Dumont" Styles

Precision tools, made from fine steels by careful, experienced Swiss Craftsmen. All carefully hand finished and individually inspected.

**No. B-6**—4½-in. long. Carbon steel. For pickup.

**No. B-6S**—Same as above but stainless.

**No. B-6SA**—Same as above but stainless, anti-acid.

**No. B-6A**—4½-in. long. Carbon steel. New angle makes pickup easier.

**No. B-7**—4½-in. long. Carbon steel.

**No. B-7S**—Same as above but stainless steel.

**No. B-7SA**—Same as above but stainless, anti-acid.

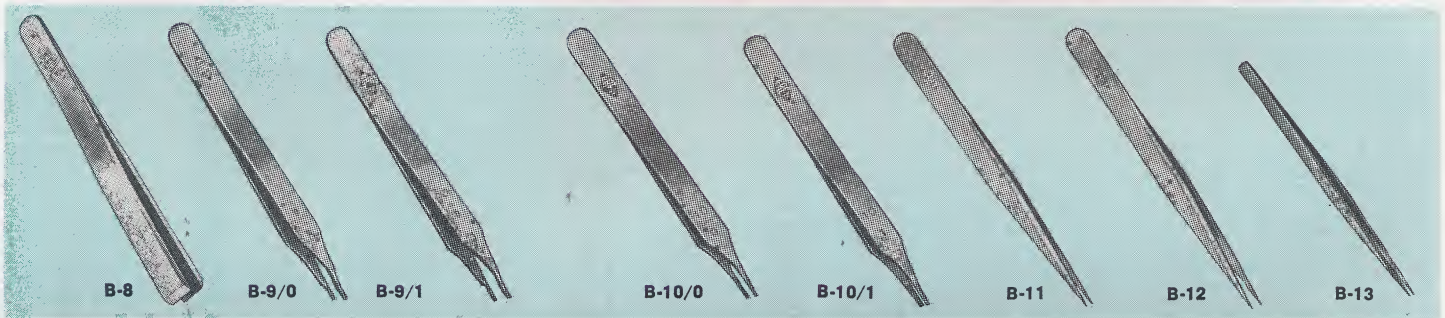
**No. B-7A**—4½-in. long. Carbon steel. Medium points.

**No. B-7AS**—Same as above but stainless steel.

**No. B-7B**—4½-in. long. Carbon steel. Serrated points.

**No. B-7BS**—Same as above but stainless steel.

**No. B-7C**—4¼-in. long. Carbon steel. Curved, fine point.



**No. B-8**—4½-in. long. Carbon steel. Blunt jaws.

**No. B-9/0**—4½-in. long. Carbon steel. Fine points for curving fine wires. Has set screw.

**No. B-9/1**—4½-in. long. Carbon steel. Medium point for curving fine wire. Has set screw.

**No. B-10/00**—4½-in. long. Carbon steel. Fine points for making coils.

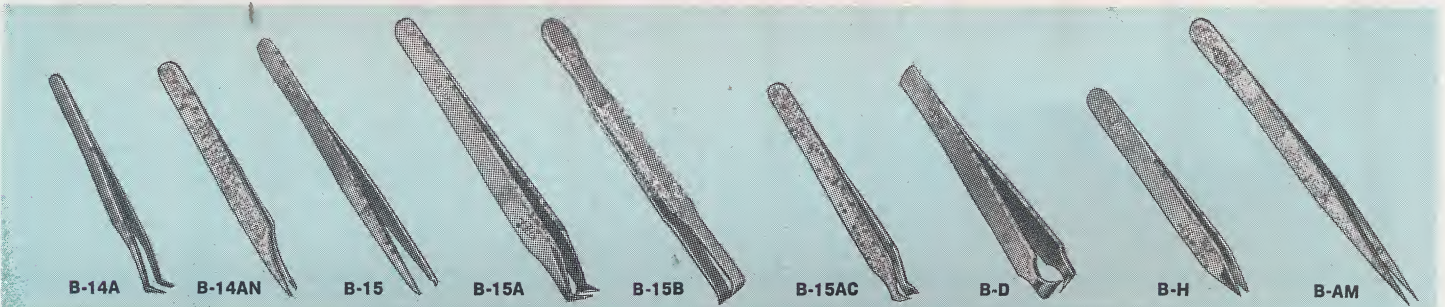
**No. B-10/0**—4½-in. long. Carbon steel. Fine points for curving extremely fine wire. No set screw.

**No. B-10/1**—4½-in. long. Carbon steel. Medium points for curving ex-fine wire. No set screw.

**No. B-11**—4½-in. long. Nickel steel. Medium points. Non-magnetic.

**No. B-12**—4½-in. long. Nickel steel. Fine points. Non-magnetic.

**No. B-13**—4¾-in. long. Carbon steel. Long narrow tweezer, preferred by many users.



**No. B-14A**—4½-in. long. Carbon steel. Oblique cutting tweezer. Finest cutting blades available.

**No. B-14AN**—4½-in. long. Carbon steel. Cutting.

**No. B-15**—4½-in. long. Carbon steel. Narrow-top cutting tweezer. Flush cut for magnetic wire stripping.

**No. B-15A**—4½-in. long. Carbon steel. Angle cutting. Flush cut.

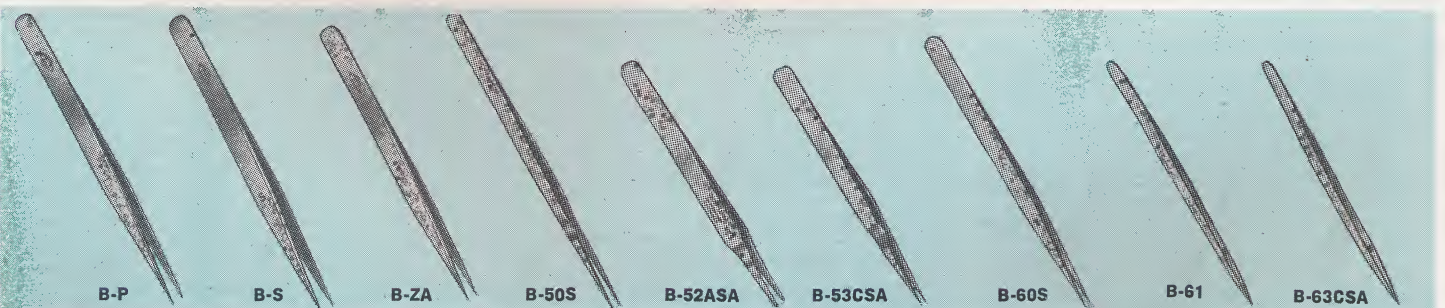
**No. B-15B**—4½-in. long. Carbon steel. Top cutting, flush cut.

**No. B-15AC**—4½-in. long. Carbon steel. Cutting.

**No. B-D**—4½-in. long. Carbon steel. Top flush cutting. For stripping magnetic and small wire.

**No. B-H**—3½-in. long. Carbon steel. Short points. Strong.

**No. B-AM**—4½-in. long. Brass. Non-spark tweezer. Used where sparking might cause problems.



**No. B-P**—5-in. long. Carbon steel. Long, narrow. Fine points for fine work.

**No. B-PS**—Same as above but stainless steel.

**No. B-S**—5-in. long. Carbon steel. Long, narrow. Medium points for fine work.

**No. B-SS**—Same as above but stainless steel.

**No. B-ZA**—4½-in. long. Carbon steel. Fine points.

**No. B-ZAS**—As above but stainless steel.

**No. B-ZB**—4½-in. long. Carbon steel. Medium points.

**No. B-ZBS**—Same as above but stainless steel.

**No. B-50S**—5-in. long. Stainless steel. Long, narrow tweezer in crush-proof design with original 13 shape, long and narrow.

**No. B-52ASA**—4½-in. long. Stainless anti-acid steel. New crush-proof design with original 2ASA shape. Flat spoonlike tips.

**No. B-53CSA**—4½-in. long. Stainless anti-acid steel. New crush proof design, with original 3CSA shape. Fine points.

**Note:** Points of stainless and anti-acid steel tweezers may be Teflon coated for extreme smoothness. See facing page. Teflon coating is not recommended for fine point tweezers.

**No. B-60S**—4¾-in. long. Stainless steel. Contact tweezer. Points are parallel for the last quarter inch. For delicate wafer handling. Original shape No. 13 fine points narrow.

**No. B-61**—4½-in. long. Nickel silver steel. Non-magnetic. Reversible action tweezer. Original shape No. 11 fine points.

**No. B-63CSA**—Same as above but made from stainless, anti-acid steel. Original shape No. 3CSA fine points.



# Semi-Conductor Tweezers

- Smooth, large surface gives user positive grip without danger of breakage or scratching.
- Mirror smooth finish will not mar or scratch polished surfaces of thin, brittle wafers.

No. C-25—4¼-in. long. Carbon steel, nickel plated. Thin and narrow jaws.

No. C-26—4½-in. long. Carbon steel, nickel plated. Round jaws.

No. C-27—4½-in. long. Carbon steel, nickel plated. Oblong jaws.

No. C-28—4-in. long. Carbon steel, nickel plated. Jaws oblong and offset.

No. C-35—4¼-in. long. Carbon steel, nickel plated. Medium jaws.

No. C-35SA—Same as above but stainless, anti-acid steel.

No. C-36—4¼-in. long. Carbon steel, nickel plated. Medium jaws, offset.

No. C-36ASA—Same as above but stainless, anti-acid steel.



C-25  
Thin and narrow jaws



C-28  
Oblong and Offset Jaws



C-26  
Round Jaws



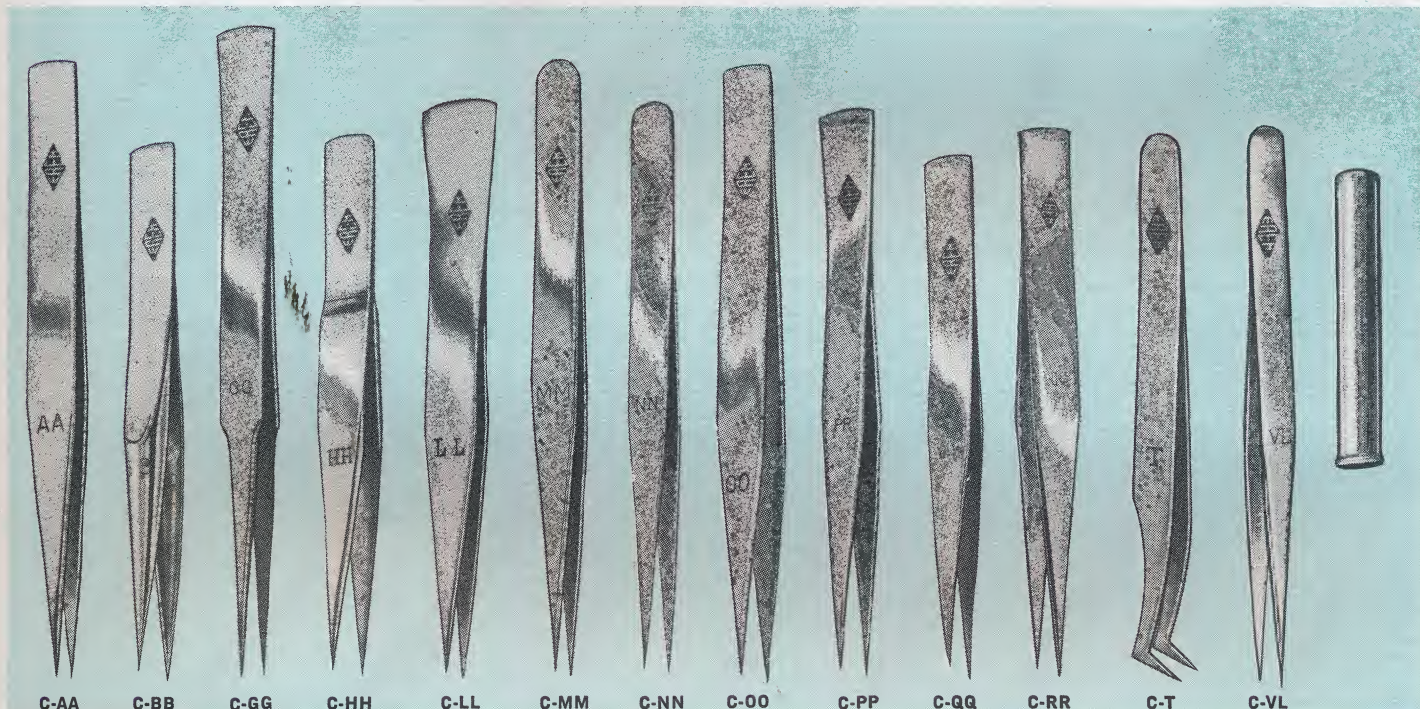
C-35  
Medium Jaws



C-27  
Oblong Jaws



C-36  
Medium Jaws, Offset



No. C-AA—4¼-in. long. Carbon steel. Strong tweezers, fine points, beveled edges.

No. C-AASA—Same as above but stainless, anti-acid.

No. C-BB—4½-in. long. Carbon steel, nickel plated. Hollow center, very light, fine points.

No. C-GG—5-in. long. Carbon steel. Nickel plated. Heavy duty. Tapered fine points.

No. C-HH—4½-in. long. Carbon steel nickel plated. Heavy blade and tension. Strong, fine points.

No. C-LL—4½-in. long. Carbon steel, nickel plated. Rugged, strong blade, fine points.

No. C-MM—4¼-in. long. Carbon steel. Nickel plated. Ex-long strong blade, fine beveled point. For assembly.

No. C-NN—4½-in. long. Carbon steel. Nickel plated. Medium heavy. Fine points. Beveled edges.

No. C-OO—4½-in. long. Carbon steel. Nickel plated. Medium weight. Beveled fine points.

No. C-PP—4¼-in. long. Carbon steel. Nickel plated. Medium weight, short blade, fine rounded points.

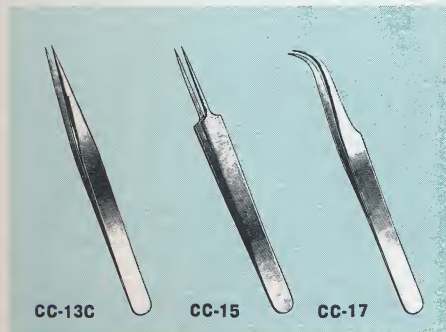
No. C-QQ—4¼-in. long. Carbon steel. Nickel plated. Light weight, short blades, fine rounded points.

No. C-RR—5½-in. long. Carbon steel. Nickel plated. Large, heavy-duty. Medium-fine, long beveled points.

No. C-T—4½-in. long. Carbon steel. Nickel plated. Medium heavy. Fine angled points.

No. C-VL—4½-in. long. Carbon steel. Short blades, medium points. With cap, can be carried in pocket.

No. C-AM—4½-in. long. Brass (Same tweezers as No. C-MM at left). Non-sparking.

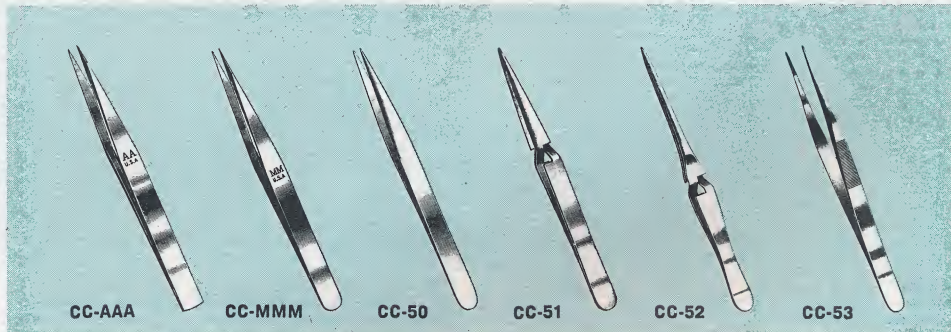


Low Price Dumont Facsimilies

No. CC-13C—4¼-in. long. (#3C style.) Stainless steel. Long narrow tweezers.

No. CC-15—4¼-in. long. (#5 style.) Stainless steel. With needle points.

No. CC-17—4¼-in. long. (#7 style.) Stainless steel. With curved points.



Low Price Boley Style Tweezers, Fine Points, Commercial Tolerances

No. CC-AAA—4¼-in. long. (AA style.) Carbon steel. Strong tweezers with fine points.

No. CC-MMM—4¼-in. long. (MM style.) Carbon steel. Similar to No. CC-AAA but slimmer.

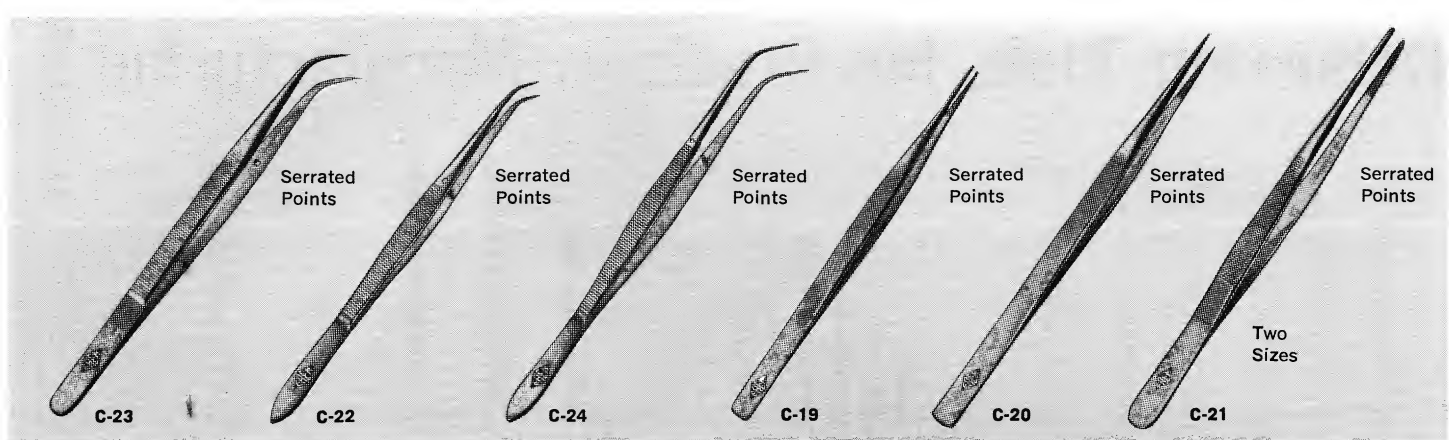
No. CC-50—4¼-in. long. Carbon steel, nickel plated.

No. CC-51—4¼-in. long. Carbon steel, nickel plated. Reverse tension tweezers for holding.

No. CC-52—6-in. long. Carbon steel, nickel plated. Big reverse tension tweezers.

No. CC-53—6¼-in. long. Carbon steel, nickel plated. Big general purpose tool, strong.





## Bigger Tweezers for Various Assembly Jobs

**No. C-23**—6-in. long. Carbon steel, nickel plated. Narrow tweezer with medium offset points for pickup work in assembly.

**No. C-22**—6-in. long. Carbon steel, nickel plated. Offset serrated points. With guide pin to keep tips aligned.

**No. C-24**—6 and 8-in. lengths. State size wanted. Same as No. C-22 above but longer, heavier offset points. Carbon steel, nickel plated. Has alignment pin.

**No. C-24S**—4 1/2 and 6-in. lengths. State size wanted. Stainless steel. Similar to above.

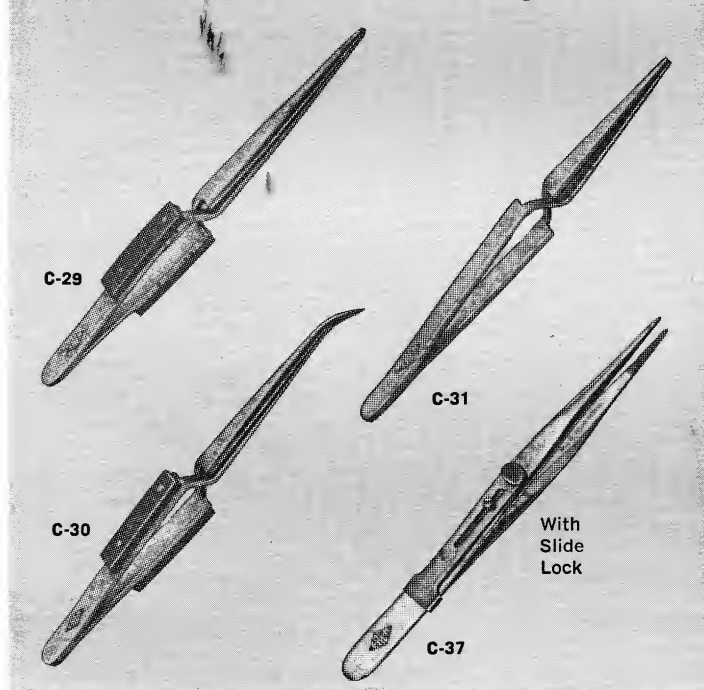
**No. C-19**—6 1/4-in. long. Carbon steel, nickel plated. With fine serrated points for assembly work.

**No. C-20**—5 1/2-in. long. Carbon steel, nickel plated. With medium serrated points.

**No. C-20S**—4 1/2-in. long. Similar to above but stainless steel.

**No. C-21**—6 1/4 and 8-in. lengths. State length wanted. Carbon steel, nickel plated. Large tweezer with large serrated points useful in many assembly jobs.

### Clamping and Soldering Tweezers Hold Small Parts for Soldering



#### Permanent Tension

**No. C-29**—6-in. long. Made from carbon steel. Has permanent tension for holding parts. Ideal tool for use in soldering in electronic assembly. Has non-serrated, straight jaws.

**No. C-30**—6-in. long. Made from carbon steel. Permanent tension for holding and soldering. Non-serrated offset jaws are useful in working in restricted areas and around obstructions. A "must" tool in many assemblies.

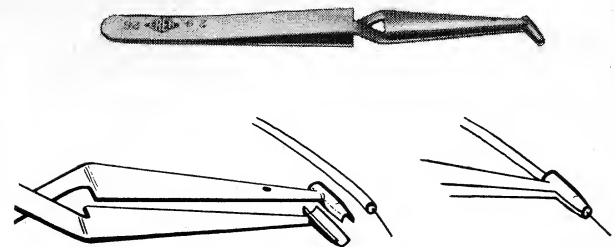
#### Speeds Soldering

**No. C-31**—4 1/2-in. long. Made of carbon steel, nickel plated. Has permanent tension for holding and clamping small materials for soldering. Small size useful in restricted areas. Straight non-serrated jaw.

**No. C-37**—5 1/2-in. long. Made of Carbon steel, nickel plated. For clamping during soldering. One hand operation, slide button forward and tweezer stays locked. Straight serrated jaw.

### Anti-Wicking Tweezers

#### Hard Chrome Plate Resists Solder Stick



Tweezer Jaws open to receive plastic covered wire.

Anti-wicking tweezer now fully protect plastic insulation on wire while soldering.

#### Meets Reliable Electrical Construction Standards of the National Aeronautics and Space Administration (NASA)

Wicking is the name given to the phenomena of capillary action which causes molten solder to creep up stranded wire during soldering processes. If solder "wicks" far enough up the wire it causes the wire to become brittle and results in subsequent failure. Hunter anti-wicking pliers control wicking so well that they meet the standards of NASA.

Hunter anti-wicking tweezers are made from carbon steel, hard chrome plated to keep solder from sticking to them. They are a necessary tool in all fine wire soldering jobs.

**No. C-44**—4 1/4-in. long. For wire sizes No. 28 thru No. 30 inclusive.

**No. C-45**—4 1/4-in. long. For wire sizes No. 24 thru No. 26 inclusive.

**No. C-46**—4 1/4-in. long. For wire sizes No. 20 thru No. 22 inclusive.

**No. C-47**—4 1/4-in. long. For wire sizes No. 16 thru No. 18 inclusive.

### Hunter Tweezers for Gripping Wire and all Small Tubular Parts

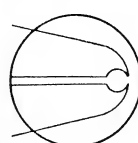


#### Straight Tweezer — Recessed Tip

**No. C-38**—4 1/2-in. long. Carbon steel. With .008" hole.

**No. C-39**—4 1/2-in. long. Carbon steel. With .012" hole.

**No. C-40**—4 1/2-in. long. Carbon steel. With .015" hole.

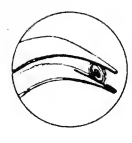


Recess in tip



#### Curved Tweezer with Tip Slot

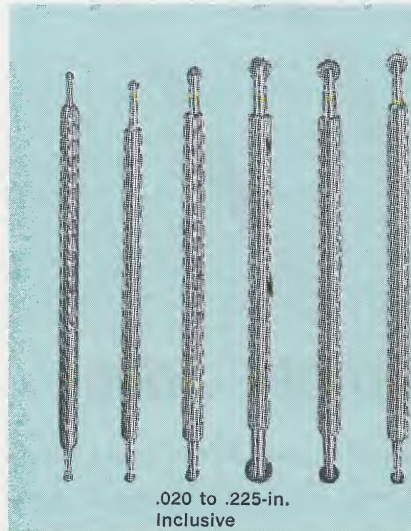
**No. C-41**—4 1/2-in. long. Made from carbon steel. Has 1/4" slot milled in tweezer tip running back from the tip. Secure way to pick up disc shape objects for assembly.



Slot in tip



# Deburring Tools for Precision Manufacturing



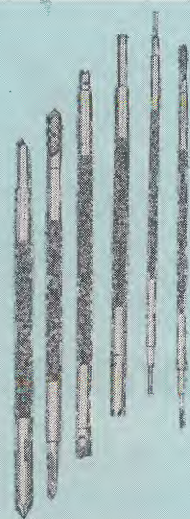
.020 to .255-in.  
Inclusive

## 6 Pc. Deburring and Countersink St

Six super hard steel deburring cylinders in a complete range of sizes from .020-in. to .255-in. Carefully finished Swiss made tools for particular mechanics in precision industries. For cleaning and/or counter-sinking super accurate drilled holes.

No. F-210—Set of six tools, all six sizes below in plastic kit.

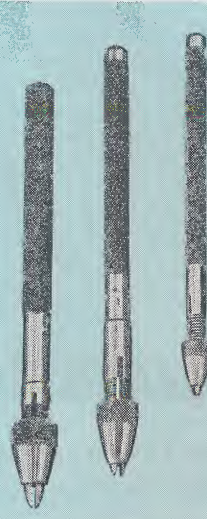
Stock No.	Size Ends	Stock No.	Size Ends
F-210A	.069-.073	F-210D	.134-.190
F-210B	.083-.093	F-210E	.162-.186
F-210C	.108-.118	F-210F	.197-.277



## Double End Debur Set

No. F-181—6 pc. debur set for precise work. Swiss made, hardened tool steel. Set consists of six sizes listed below.

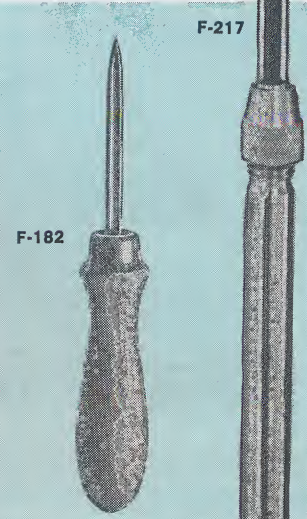
- F-181A—.118-.177 double bevel.
- F-181B—.099-.157 double rose.
- F-181C—.036-.052 double rose, for cleaning screw head openings.
- F-181D—.119-.157 hollow center.
- F-181E—.115-.156 double bevel.
- F-181F—.043-.080 double bevel.



## Debur-Chamfer Tools

Each tool has four tool steel cutters. Range is adjustable within dimensions shown below.

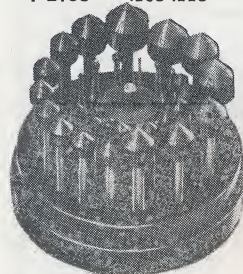
- F-178—3½-in. long, range .0-.100.
- F-179—4¼-in. long, range .0-.150.
- F-180—4¼-in. long, range .0-.200.



## Deburring Scraper

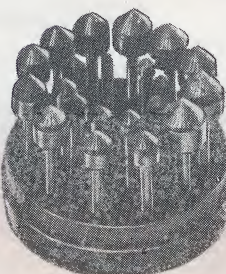
File steel blade.  
F-182—2½" long .3/16x2" blade.  
F-183—3" long. ¼x2½" blade.

No. F-217—Retractable Blade Deburring Scraper. 3½-in. handle with chuck. Triangular file steel blade adjusts to length needed by user. Retracts into handle when not in use.



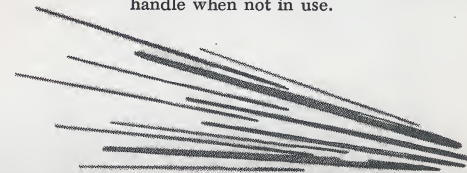
## 30 Piece Burr Set

30 round burrs in stand for use on non-ferrous metals. .120-in. shanks, use with power tools. Assorted diameter heads 1 to 9.75 millimeter.  
No. F-215—30 burrs in stand.



## 22-Pc. Set of Larger Burrs

Round burrs with smooth outside surface. Made in Switzerland. Used for scraping excess solder, deburring, cleaning, smoothing. .120-in. shanks. Assorted diameter heads from 2.55 to 9.9 millimeter.  
No. F-216—Set of 22 burrs in stand.



## Set of 12 Deburring, Cutting Broaches

For use in pin vise on non-ferrous metals. Ideal for cleaning solder out of printed circuit eyelets.  
No. F-224—Set of 12. Size range .025 to .100-in.  
No. F-225—Similar to above but with knurled handles for manual use. Size range .025 to .100-in.



## Set of 6 Miniature Screwdrivers

Our best set of miniature screwdrivers. Beautifully made in Switzerland, crafted and hand finished in the way for which Swiss craftsmen are world famous. These are the right tool for the most delicate and precise screw work, no other driver can quite equal their delicate precision. The "right" tool for the mechanic who has the most meticulous assembly or adjusting work to do.

No. F-203—Set of 6. Size range: .050, .040, .030, .025, .023, .022-inches.



## Miniature Driver Sets with Extra Features

Plus features which make them among the most useful small driver sets ever devised. Both have reversible driver blades, giving both sets double use life. Set No. F-205A has colored finger tips—a different color for each tip size making size selection fast and easy. Blade size range in both sets: .050, .040, .030, .025, .023, .022-inches. In plastic kit.

No. F-205—With metal finger tips.  
No. F-205A—With colored plastic finger tips.

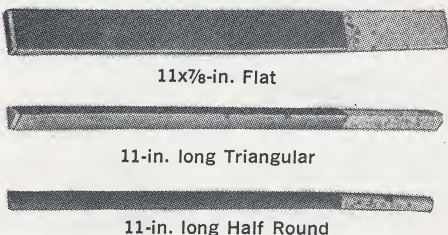


## Popular Priced Miniature Screwdriver Set

Well made popular priced miniature screwdriver set which does not go down to the very small size blades of the two fine sets at the left. This is an excellent set for the mechanic whose work is delicate but does not require the absolute maximum in precision. Will give good service. Set of six drivers in plastic case for easy size identification. Sizes: .090, .080, .060, .050, .040, .030 inches.

No. F-204—Set of 6 Miniature Drivers in case.

## Sharpening Sticks for Tweezer Sharpening and Maintenance



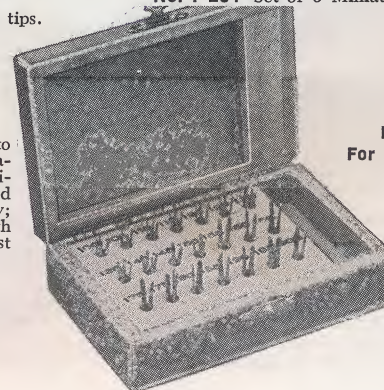
11x7/8-in. Flat

11-in. long Triangular

11-in. long Half Round

These sticks are the correct tool to use to sharpen and maintain tweezers; the abrasives offered have been proved by experience to be the best. No. 2 grit, offered below, is composed of emery powder only; No. 2/0 grit, below, is emery infused with rouge to give the finest points and finest finish.

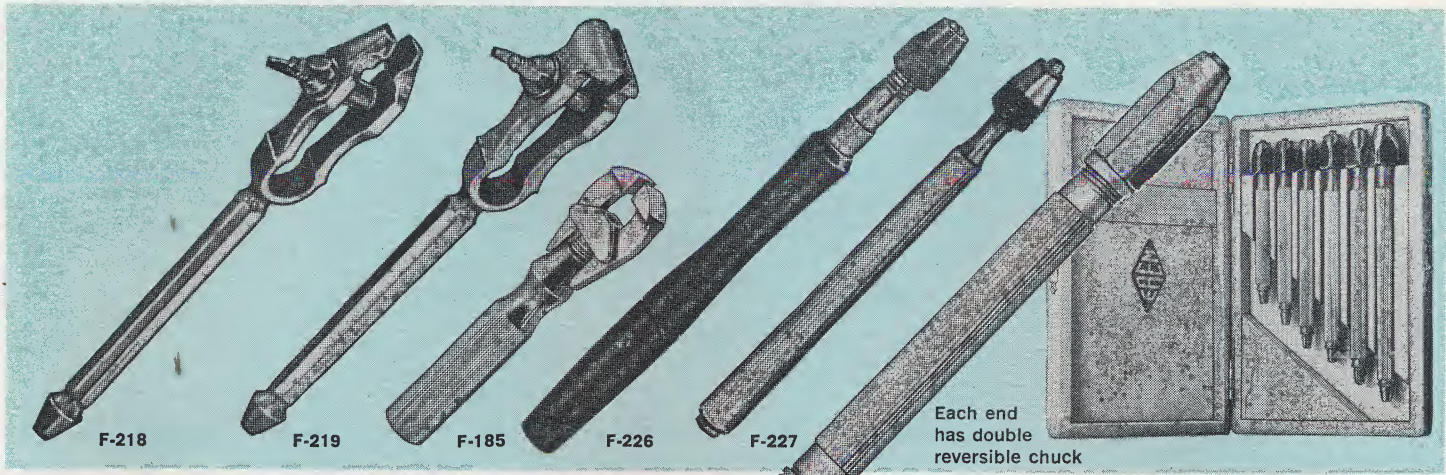
- F-196—11x7/8-in. flat. No. 2/0 grit.
- F-195—11x7/8-in. flat. No. 2 grit.
- F-194—11-in. triangular. No. 2/0 grit.
- F-193—11-in. triangular. No. 2 grit.
- F-192—11-in. half round. No. 2/0 grit.
- F-191—11-in. half round. No. 2 grit.



## Miniature Drills for Non-ferrous Metals

Very fine drills made in Switzerland. Sets include duplications of most used drill sizes.  
No. F-235—Set of 72 drills. Size range: 0.10 to 1 millimeter.  
No. F-236—Set of 72 drills. Size range: 1 to 2 millimeter head diameters.





### BIG SELECTION HAND AND PIN VISES

- No. F-218**—4-in. long. Hand Vise. Round head style.  
**No. F-219**—4-in. long. Hand Vise. Square head style.  
**No. F-185**—3-in. long. Hand Vise. Forged steel, chrome plated. Has double lever action that holds all work securely.  
**No. F-186**—4-in. long. Hand Vise. Same as above but larger.  
**No. F-226**—3½-in. Wood handle Pin Vise. Chuck range .000 to .0625-in.  
**No. F-227**—3½-in. Brass Pin Vise. Chuck range, .000 to .040-in.

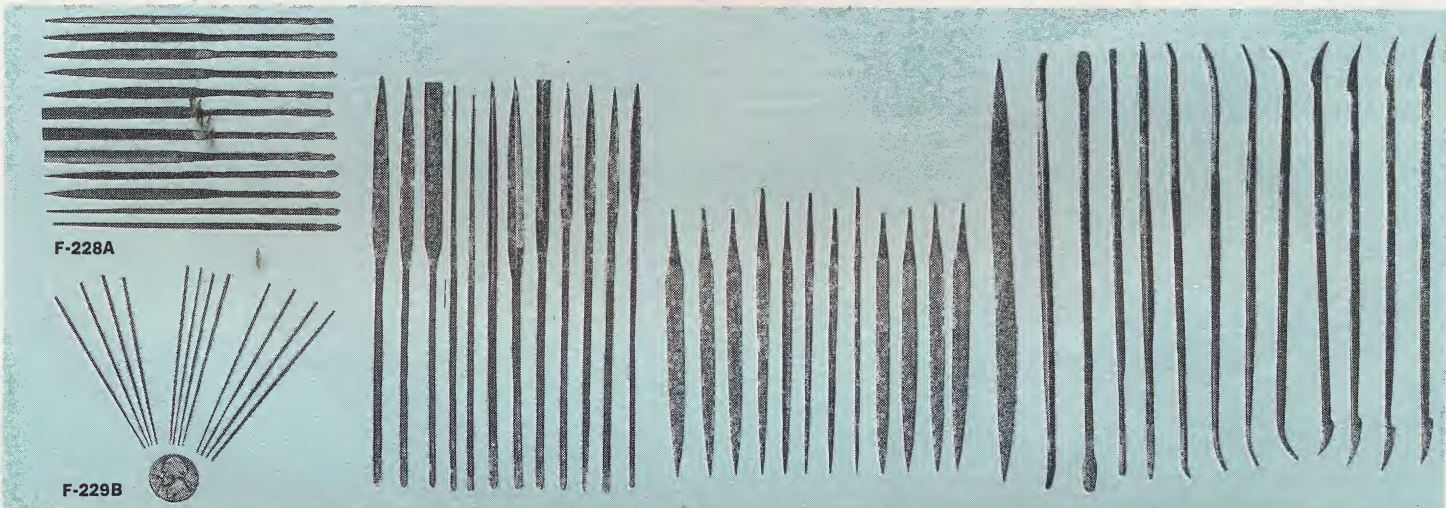
Each end has double reversible chuck

### Four Chucks — Extra Use

### 6 Pc. Pin Vise Set

5-in. long. Double ended pin vise, each end with reversible chuck, gives a total of four chucks. Wide range form .000 to .125 inch. Collet type chucks hold tools securely.  
**No. F-220**—Pin vise.

Six pin vises packed in handy wood case. Has a wide range of tool holding ability, ½ MM to 4 MM — 2-in. to 3½-in. Collet type chucks hold tools firmly for use.  
**No. F-184**—Pin vise set.



### Miniature Broaching Files

Tiny, 3-in. long, size of large needle. Max. width or diameter 1 MM. Set includes 4 square taper, 4 round parallel.  
**No. F-229B**—Set of 12.

### Precision Tool Makers Files

5½-in. long. No. 6 cut. Assorted shapes of finely made Swiss files for tool making and die work. None finer made. (Escapement files.)  
**No. F-229**—Set of 12.

### Die Sinker's Files

5-in. long. No. 2 Cut. Very fine set of imported Swiss files for fine and intricate filing. Designed and made to please the most particular craftsman. Set consists of 12 assorted shapes chosen to cover a very wide range of jobs. Widely used everywhere in the world where intricate die sinking work is done.  
**No. F-228C**—Set of 12.

### Tool Maker's Riffler Files

6-in. long. No. 4 cut. Set of 12 assorted double-ended toolmaker's riffler files. Made in Switzerland. There are no better files of this type made. Set includes all the wanted shapes for fine filing in corners, intersections and similar hard to reach places.  
**No. F-228D**—Set of 12.

**No. F-228A**—Set of 12 Needle Files. 5½-in. long. No. 4 cut. Assorted shapes for all fine filing work. Made in Switzerland.  
**No. F-228B**—Set of 12 Needle Files. 5½-in. long. No. 2 cut. Assorted shapes. From Switzerland's finest factory.



### Precision Hand Drill

4½-inches long. Very small, for use with tiny drill sizes in fine delicate work. Is Archimedian spiral type, helps prevent fine drills from breaking.  
**No. F-223**—Drill.

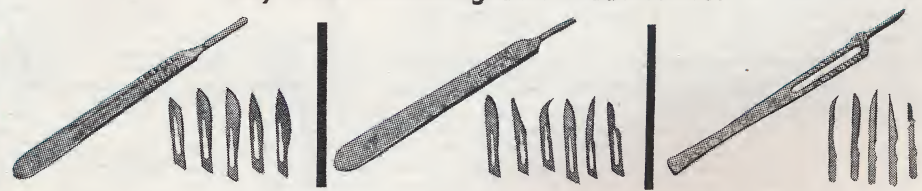
### BRISTLE BRUSHES

For cleaning printed circuit boards, etc. Brushes are 10-in. long, brush area, 4½ x 4½-inches.

- No. F-190** — Hard bristle brush.  
**No. F-189** — Medium bristle brush.  
**No. F-187**—Soft bristle brush.



### Very Fine Interchangeable Blade Knives



### PARKER STYLE KNIVES

Tapered handle is preferred by many operators. Blades can be securely locked in handle but easily interchanged. Flat design of handle prevents dangerous rolling. Set complete with handle and 5 large standard blades listed below:  
**No. F-176** — Complete set, handle and 5 blades, total 6 pieces.

### Replacement Blades

- No. F-176-20**—Bolo pt., sharp curve.  
**No. F-176-21**—Bolo pt., med. curve.  
**No. F-176-22**—Bolo pt., lg. curve.  
**No. F-176-23**—Spear pt., medium.  
**No. F-176-24**—Spear pt., large.

Parker style knife set with small blades. Same handle and features as F-176 set. Set complete with handle and 6 small size blades as listed below:  
**No. F-177** — Complete set, handle and 6 blades, total 7 pieces.

### Replacement Blades

- No. F-177-10**—Bolo pt., med. curve.  
**No. F-177-11**—Spear point, straight oblique blade.  
**No. F-177-12**—Hook blade, interior cutting.  
**No. F-177-13** — Spear point, slight curve.  
**No. F-177-14**—Straight blade.  
**No. F-177-15** — Short bolo point, slight curve.

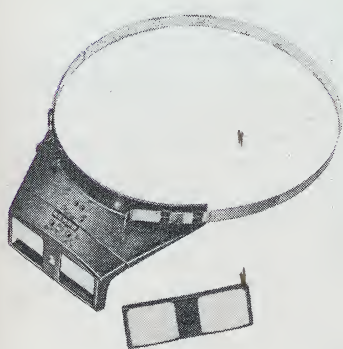
### FINEST KNIFE MADE

Balanced handle, blade locks so securely that knife always feels like a one-piece tool. Surgical steel blades that will cut the finest materials with ease.  
**No. F-175** — Complete 6 pc. knife set.

### Replacement Blades — Maximum use shapes

- No. F-175-3**—Long hook blade.  
**No. F-175-4**—Med. rounded blade.  
**No. F-175-5**—Straight line following blade.  
**No. F-175-6**—Line following oblique blade.  
**No. F-175-7**—Short rounded blade.





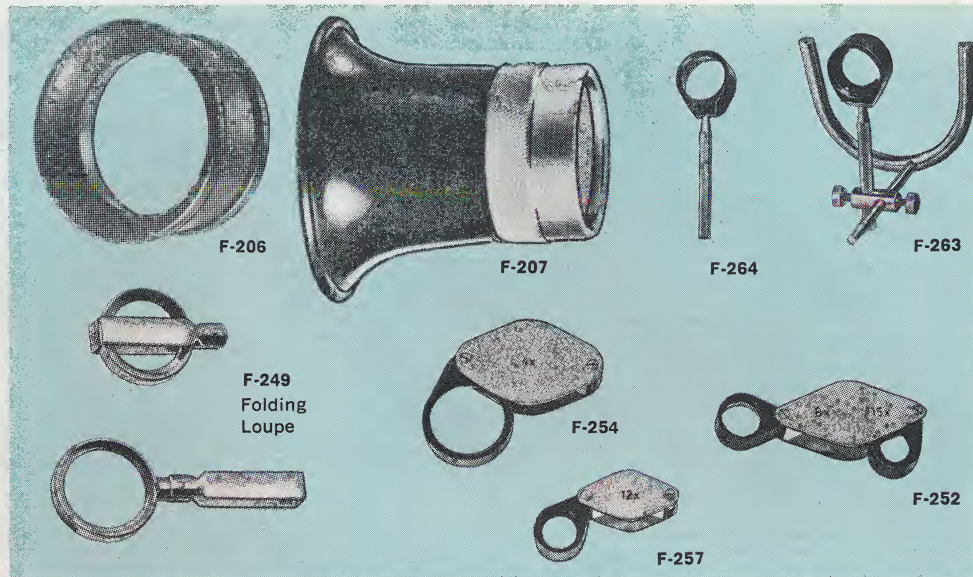
### Magnifying Viewer For Head Wear

Has many uses in industry. Can be used in assembly, in inspection, in fact, it can be used anywhere where the operation does not require too high a degree of magnification. Easy and comfortable to wear. Head band is adjustable and viewer can be flipped up out of the way when not in use. Available in three degrees of magnification, see below.

No. F-246—Viewer with 2X lenses.

No. F-247—Viewer with 2½X lenses.

No. F-248—Viewer with 3½X lenses.



### Eye Loupes, Pocket Magnifiers, Inspection Tripods

No. F-206—Eye loupe, 2½-in. diameter.

No. F-207—Double lens eye loupe. Focus 4-in.

No. F-208—Double lens eye loupe as above. 10X mag.

No. F-209—Double lens eye loupe as above. 20X mag.

No. F-249—Folding eye loupe. 1½-in. diameter.

No. F-250—Folding eye loupe. 1¾-in. diameter.

No. F-251—Folding eye loupe. 2-in. diameter.

No. F-254—Pocket magnifier. ¾-in. lens. 4X mag.

No. F-255—Pocket magnifier. As above. 6X mag.

No. F-256—Pocket magnifier. As above. 10X mag.

No. F-263—Inspection tripod. 3-in. high with 6X mag.

No. F-264—Same as above. 12X mag.

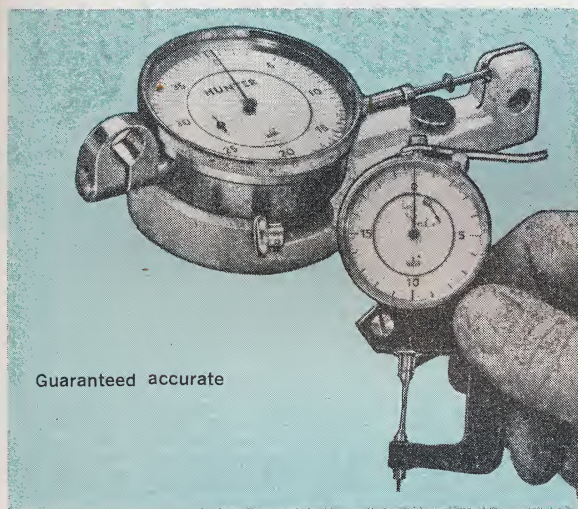
No. F-257—Ex-power magnifier. ½-in. lens. 12X mag.

No. F-258—Ex-power magnifier. As above. 15X mag.

No. F-259—Ex-power magnifier. As above. 20X mag.

No. F-252—Dual purpose pocket magnifier. ½-in. and ⅜-in. lenses. 8X and 15X magnification.

No. F-253—Dual purpose pocket magnifier. Same as above but 10X and 20X magnification.



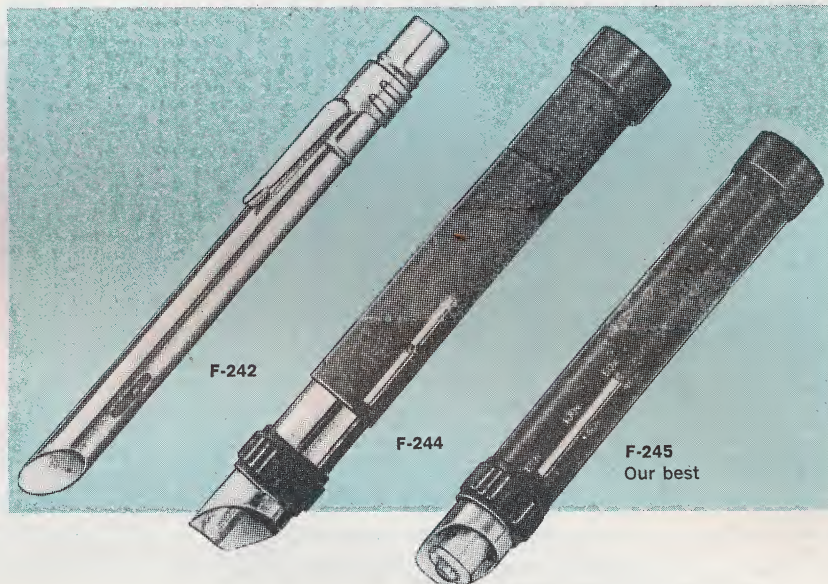
Guaranteed accurate

### High Precision Dial Micrometers

Accurate, fast reading, for production use.

No. F-232—Bench mounted model. Makes supremely accurate measurements from a quarter thousandth of an inch to 7/16th inch. Has two measuring devices, one vertical, one horizontal. Has adjustable platform and operating lever.

No. F-233—Hand model micrometer. Similar to above but hand held. Takes vertical measurements only from a quarter thousandth to 1/8 inch.



### Super Pocket Microscopes — High Magnification

No. F-241—4¼-in. long. Nickel finish, pocket clip, 20X mag.

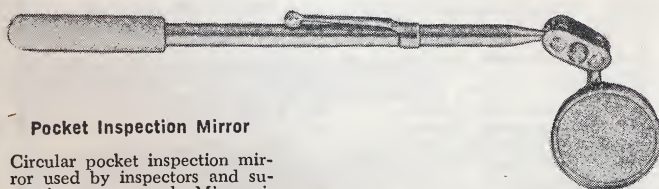
No. F-242—Same as above but 40X magnification.

Our super-power pocket microscopes with adjustable magnification. Have satin black and chrome finish. Have adjustable focusing plus mirror to attract light.

No. F-243—Pocket microscope with 40X, 50X, 60X magnification.

No. F-244—Pocket microscope with 15X, 25X, 35X magnification.

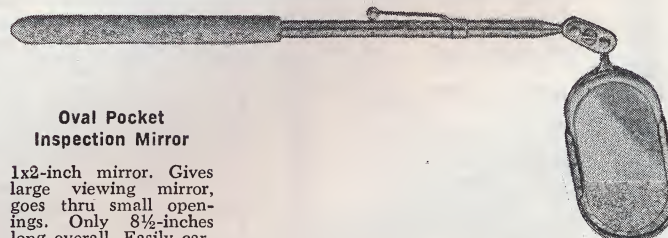
No. F-245—Our best microscope with 40X, 50X, 60X, 80X and 120X adjusting magnifications.



### Pocket Inspection Mirror

Circular pocket inspection mirror used by inspectors and supervisory personnel. Mirror is only ⅞-in. in diameter, gets into small openings. Overall length of tool, 7½-inches, easily carried in pocket.

No. F 50 — Small inspection mirror.



### Oval Pocket Inspection Mirror

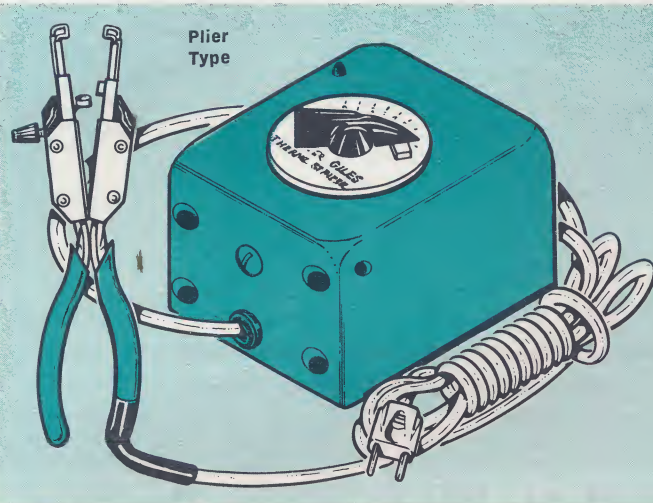
1x2-inch mirror. Gives large viewing mirror, goes thru small openings. Only 8½-inches long overall. Easily carried in pocket.

No. F 51 — Oval inspection mirror.

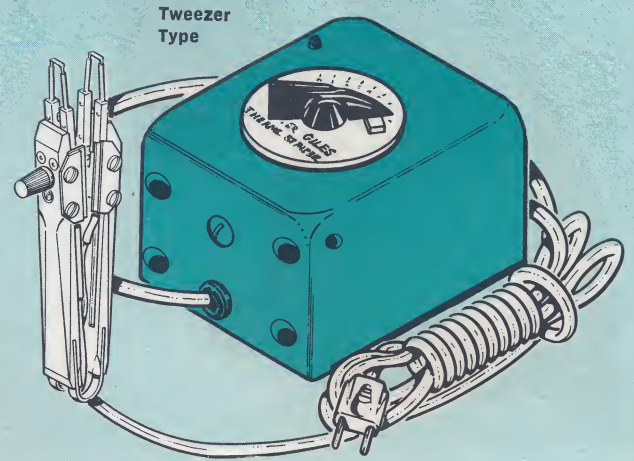


# Thermal Wire Strippers-Do Your Job Fast, Easy!

DESIGNED TO DO HIGH RELIABILITY STRIPPING . . . HELPS WORK MEET RIGID NASA REQUIREMENTS



Plier  
Type



Tweezer  
Type

## Hunter-Giles Thermal Wire Strippers Have These Quality Features

The light weight, plier-like design gives this model a familiar feel, and the long, slim nose makes it convenient for those hard to reach wires . . .

- Silver Electrodes eliminate oxidation — give long life.
- Nichrome wire, silver leads, give ideal current connection and conduction. Nichrome section ductile enough to shape for large range of wire sizes.
- All controls, except cord connections are silver soldered.
- Filaments function at maximum heat until worn thru.

### Standard Control Box with Plier Type Stripper

Plier is 8-in. long, 1/2-in. wide at tip, 2 1/2-in. wide at handle, 3/8-in. thick with 36-in. cord. Plier stripper weighs only 8 oz., total unit weighs only 3 lbs. Ideal for research and development work. For firms manufacturing instrumentation, aircraft, missiles, radar, computing systems, radio, television and similar sophisticated products.

**No. 80**—Standard control box, plier type wire stripper.

**No. 80C**—Same as above but with heavy duty (3-wire) cord and ground.

**No. 80D**—Plier type stripper and cord only.

**No. 80A**—Replacement filaments for plier type stripper. *Not* for use with tweezer type.

- Handles insulated for comfortable handling.
- Primary cord and hand tool cord are replaceable; heating elements elements easily and quickly replaced.
- Alignment is adjustable.
- Rheostat wound 80+ for any degree of heat at tips.
- Most exposed parts are silver plated or stainless.

### Choice of Control Boxes with Light Weight Tweezer Type Wire Stripper

Time proven Hunter-Giles control unit with a choice of three different control boxes with the New Tweezer Type Wire Stripper. This is the stripper preferred by many assembly station users who like the light weight and maneuverability of the tweezer unit.

**No. 80J**—Standard control box with tweezer type wire stripper.

**No. 80J-1**—Same as above but with heavy duty cord and ground.

**No. 80N**—Tweezer and cord only.

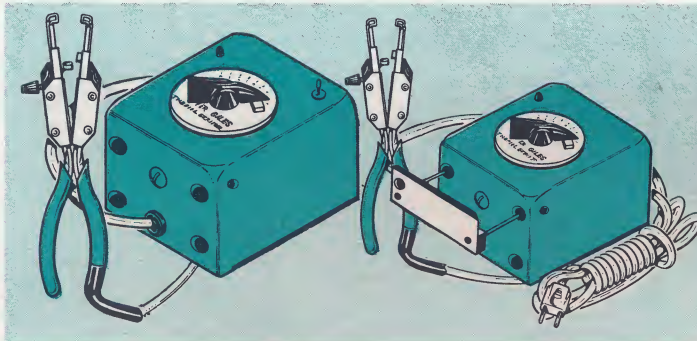
**No. 80K**—Same as No. 80J but control box has off and on switch.

**No. 80K-1**—Same as above but with heavy duty cord and ground.

**No. 80L**—Same as No. 80J unit but with cradle switch on control box.

**No. 80L-1**—Same as above but with heavy duty cord and ground.

**No. 80M**—Replacement filaments for tweezer handle. *Not* interchangeable with No. 80A plier filaments or No. 80T nichrome tips.



Standard Control Box With Off-On  
Switch, Plier Stripper

Good unit where use is intermittent. Off-on switch gives operator control over unit.

**No. 80F**—Same as No. 80 unit above, has all of the same quality features plus the wanted Off-On switch.

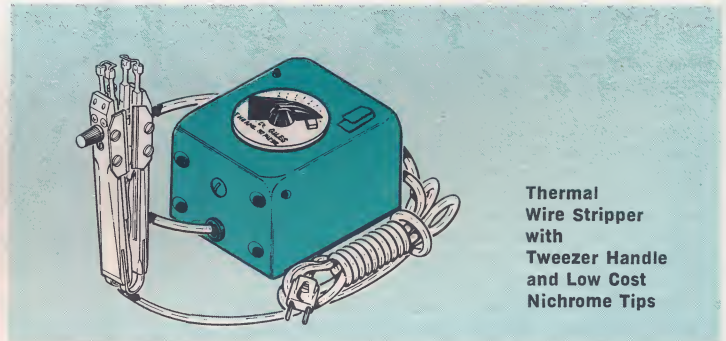
**No. 80F-1**—Same as unit No. 80F but has heavy duty (3-wire) cord and ground.

Standard Control Box With Cradle  
Switch, Plier Stripper

Very convenient unit for assembly work. Requires no manual turning on and off of current.

**No. 80G**—Same as No. 80 unit but with convenient cradle type switch liked by assemblers.

**No. 80G-1**—Same as unit No. 80G but has heavy duty (3-wire) cord and ground.



Thermal  
Wire Stripper  
with  
Tweezer Handle  
and Low Cost  
Nichrome Tips

## New Economy Line of Hunter-Giles Wire Strippers

These wire strippers give users the lowest possible cost consistent with fine quality. Made to meet the needs of industries facing budget problems. Will give good service under moderately severe operating conditions, but not recommended for heavy-duty use. Control units and tweezer stripper are similar to those of the unit above, but lower cost nichrome tips allow lower selling prices.

**No. 80Q**—Standard control box, tweezer type handle, low price nichrome tips.

**No. 80Q-1**—Same as above but with heavy duty cord and ground.

**No. 80U**—Tweezer type stripper and cord only.

**No. 80S**—Same as No. 80Q but control box has off and on switch.

**No. 80S-1**—Same as above but with heavy duty cord and ground.

**No. 80R**—Same as No. 80Q unit but with cradle switch on control box.

**No. 80R-1**—Same as above but with heavy duty cord and ground.

**No. 80T**—Low price replacement nichrome tips. *Not* interchangeable with filaments No. 80M or No. 80A.



Accessories and  
Replacement Parts

**No. 80B**—Foot pedal on and off switch, fits all units on this page.

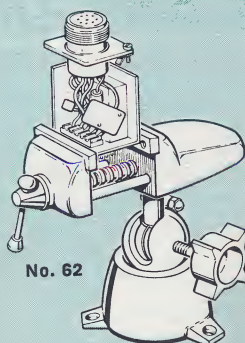
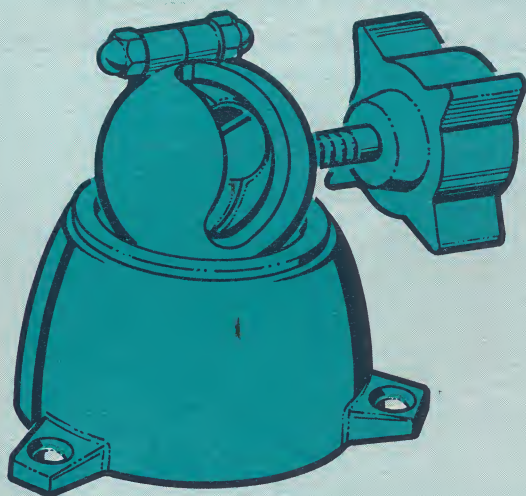
**No. 80E**—Replacement cord for either tweezer or plier type hand piece.

**No. 80H**—Replacement formica stripping plates. Fits all strippers on this page.

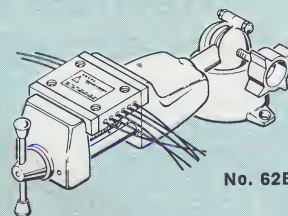
All Tweezer Type Units Listed Above Can Be Used as Bench Model Strippers.

Narrower than standard filaments are available on special order. Write for quotation.





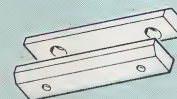
No. 62



No. 62B



Nylon V-groove Jaws



Nylon Jaws

**Hunter Pana-Vise has compound locks to hold heavy pieces rock solid in any wanted position — even compound angles.**

## Hunter Pana-Positioner Pivots 360°—Holds Work in any Position

The Hunter Pana-Positioner is essential for all precision electronic assembly. With proper fixtures it holds components, modules, and printed circuits in the most desirable working position. Work goes faster, easier and with greater precision. Holds a wide variety of  $\frac{1}{8}$ -in. shaft fixtures, pivots 360 degrees on any tangent to half a sphere, achieves any compound angle. Single lock rigidly holds all fixtures. Die cast from rugged zinc and aluminum alloy, reinforced with steel and brass parts for strength and durability. Hunter has a complete assortment of fixtures available to fit this base.

**No. 62A**—Pana-positioner. Overall width, 5-inches, height, 4-inches.

**No. 62**—Complete Pana-Vise Vertical Work Holding Unit. Consists of Pana-Positioner at left plus vertical vise. Unit is 8-in. high, 6-in. long, 5-in. wide. Vertical vise has replaceable steel jaws,  $\frac{1}{8}$ -in. shaft.

**No. 62D**—Vertical vise head only. Jaws  $2\frac{1}{2}$ -in. wide, open to  $2\frac{1}{2}$ -in.

**No. 62B**—Complete Pana-Vise Horizontal Work Holding Unit. Consists of Hunter Pana-Positioner at left plus horizontal vise for holding work. Unit is 4-inches high, 10-inches long, 5-inches wide overall. Horizontal vise has replaceable steel jaws,  $\frac{1}{8}$ -in. shaft.

**No. 62E**—Horizontal vise only. Jaws  $2\frac{1}{2}$ -in. wide, open to  $2\frac{1}{2}$ -in.

**No. 62C**—Nylon jaws to fit above vises. Ideal for use where non-marring is important in the work being held.

**No. 62C1**—Nylon Jaws with V-groove to fit above vises to hold small circuit boards.

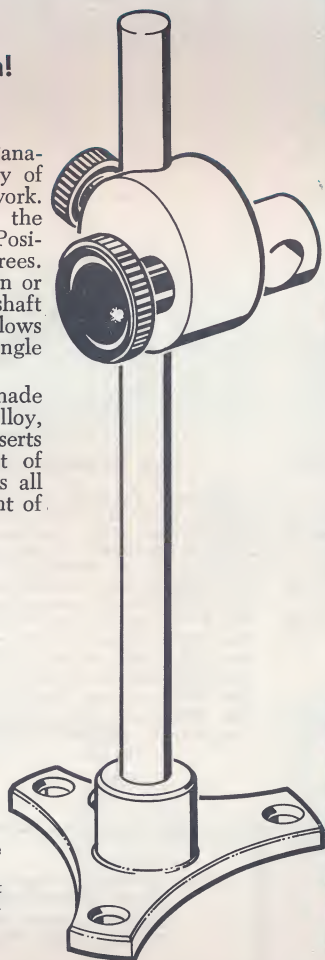
All Pana-Positioners, Pana-Vises and accessories shipped in units of one.

### Hunter Adjusto-Positioner Lets You Move Work Up! Down! Or Pivot it 360 Degrees

Does all the work holding jobs of the Pana-Positioner above, plus giving the flexibility of being able to change the height of the work. Depending on the height and/or size of the components being worked on the Adjusto-Positioner can be pivoted a complete 360 degrees. Gives compound adjustment up or down, in or out, round and round. Adjusto-Positioner shaft is 10-in. long. One simple control knob allows setting the job position at just the right angle for most efficient work.

The Adjusto-Positioner head and base is made from durable lightweight aluminum alloy, threaded areas have spring steel helicoil inserts for great strength, long life. 10-inch post of polished steel. The Adjusto-Positioner holds all fixtures with a  $\frac{1}{8}$ -in. shaft, a wide assortment of which are shown in this catalog.

**No. 62L**—Complete Adjusto-Positioner unit.



62L1



62L3



**Vacuum Base Holders —  
Move Your Work Easily**

**Parts for Adjusto-Positioner**

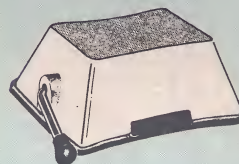
**No. 62L2**—10x $\frac{1}{8}$ -in. steel post.

**No. 62L1**—Control unit for holding fixture shafts. Takes  $\frac{1}{8}$ -in. shafts.

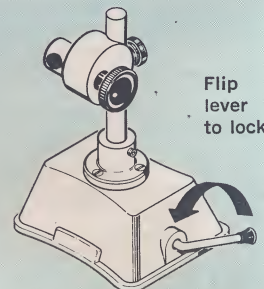
**No. 62L3**—Shaft base. Holds  $\frac{1}{8}$ -in. shaft or post. Extra bases allow work to be moved to different locations easily.

62L2

**Vacuum Base Holders —  
Move Your Work Easily**



**No. 62A1**—Flip of lever holds base firmly to any smooth, non-porous surface. Base of cast aluminum with neoprene holding pad on bottom. Top can be drilled, tapped to hold any fixture. Easily moved setups, flip of lever releases vacuum, unit is ready to move.



Flip  
lever  
to lock

**No. 62A2**—Vacuum base at left with Adjusto-Positioner mounted on top. Complete versatility in making work setups. Fast, effortless. No bolt holes needed in benches or tables—keeps fine work surfaces unmarred. Unit easily changed or moved — just release vacuum.

62K



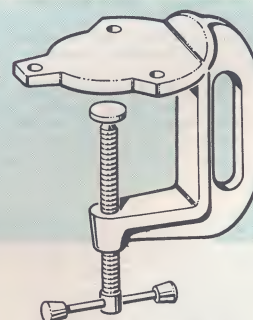
62K2

**Base Plates for Positioners**

**No. 62K** — 10x10-in. cast steel, cross ribbed to prevent warp. Drilled for mounting either Adjusto- or Pana-Positioners. Can be used as surface plate or for layout work.

**No. 62K2**—8-in. round base plate for mounting Adjusto-Positioners and Universal Visers No. 62D1 and No. 62D3.

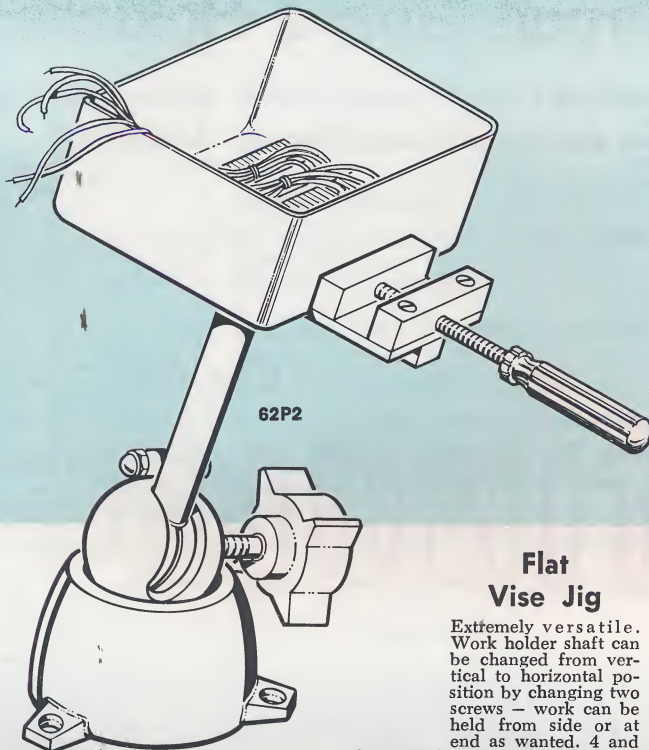
**NOTE**—When used with any  $\frac{1}{8}$ " shaft fixture you must order a 62D8 adapter shown on page 19A.



**Bench Clamp for Pana- or  
Adjusto-Positioners**

**No. 62F**—Clamps to bench or table securely. Drilled for Pana- or Adjusto-Positioners above and at left. Easy to move from place to place.





### Flat Vise Jig

Extremely versatile. Work holder shaft can be changed from vertical to horizontal position by changing two screws - work can be held from side or at end as wanted. 4 and 8-in. work tables can be interchanged at will.

Table made of aluminum alloy. Vise jig available with either Pana- or Adjusto-Positioner. See facing page.

**No. 62P2**—4-in. vise with Pana-Positioner base.

**No. 62P3**—4-in. vise with Adjusto-Positioner base.

**No. 62R2**—8-in. vise with Pana-Positioner base.

**No. 62R3**—8-in. vise with Adjusto-Positioner base.

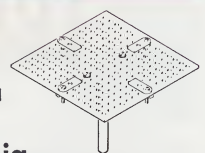
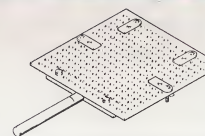
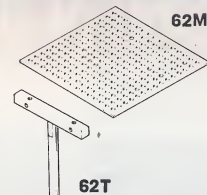
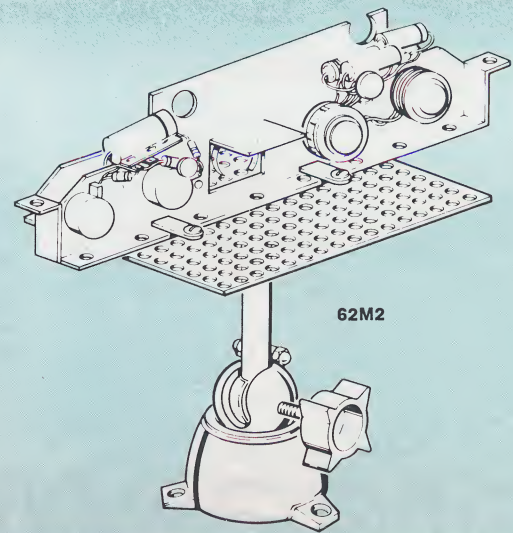
**No. 62P1**—4-in. vise; opening capacity 0-4½". No shaft.

**No. 62R1**—8-in. vise; opening capacity, 0-8". No shaft.

**No. 62T**—Shaft for above vises. Holes for both vertical and horizontal mounting. 4-in. long, 6-in. high.

**No. 62P**—4-in. vise with shaft.

**No. 62R**—8-in. vise with shaft.



### Perforated Jig To Hold Oddly Shaped Parts

A very flexible use jig designed to hold odd or irregular shaped parts which cannot be held in the usual vise type jig. This jig is a must in the tool crib of every manufacturer because it not only can be used in production work, but it is most useful in handling many odd jobs of maintenance and repair.

Perforated jig comes complete with four screws, thumb nuts and metal clips to be used in the mounting of parts to be worked on.

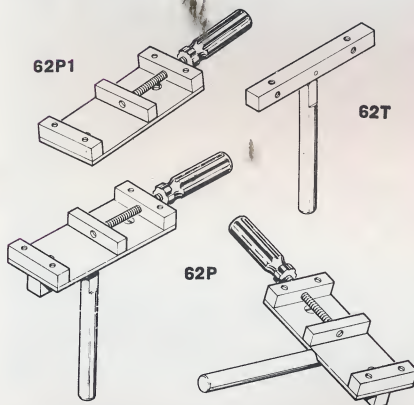
Perforated jig can be mounted vertically or horizontally as wished, mounting position can be easily changed by changing only two screws.

**No. 62M2**—Complete Perforated Jig. Consists of perforated plate, 8x8-in.; T-bar, No. 62T and Pana-Positioner base described on facing page.

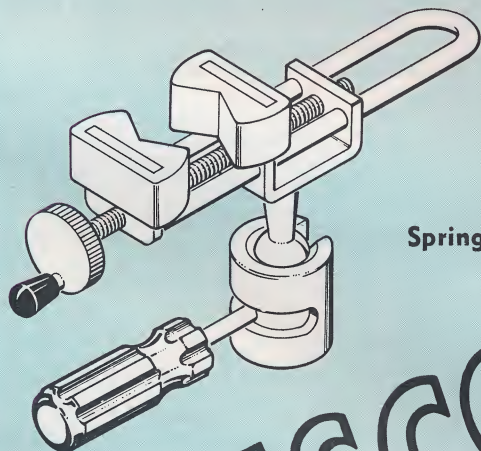
**No. 62M1**—Perforated jig plate only. 8x8-in., square, cadmium plated steel. Perforated with ¼-inch holes. Comes with four bolts, nuts.

**No. 62T**—Supporting T-bar only. Holes on both top and side for both vertical and horizontal mounting. 4-in. long, 6-in. high.

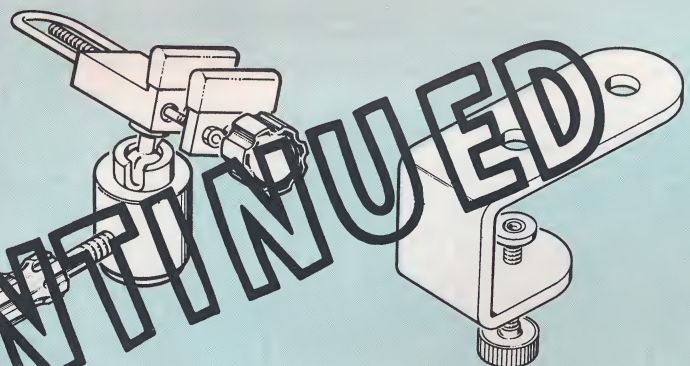
**No. 62M**—8x8-in. perforated steel plate with T-bar. Can be mounted either horizontally or vertically. Vertical height, 6 inches. Horizontal length, 13 inches.



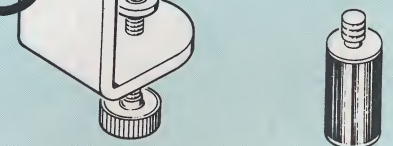
### New Work Holders



Spring Loaded



Miniature Universal Vise



Adjustable Bench Clamp

### Popular Universal Vise

Meets many assembly needs. Vise holds firmly yet soft jaws will not mar delicate work. Precision fitted for accurate holding. Clamps for fast, easy control of jaws. 4-in. high jaws. Opens to 3½-in.

**No. 62D1**—Complete with universal arm.

**No. 62D2**—Vise head only with ½" shaft to fit other Hunter Positioners.

**No. 62D3**—Replacement jaws.

None of the above available until May 1, 1964

Has all the quality of our larger vises but is made and designed for holding miniature assemblies. Jaws have replaceable coated surfaces to cushion and protect small delicate parts. Vise is carefully machined and fitted to operate smoothly and accurately. ½" high jaws. Opens to 1½".

**No. 62D4**—Complete with universal arm

**No. 62D5**—Vise head only with ½" shaft.

**No. 62D6**—Replacement jaws.

None of the above available until May 1, 1964

Clamps to bench securely. Made for the No. 62D1 and No. 62D4 vises, but will hold any Hunter ½" shaft fixtures, by using No. 62D8 adapter. Has two mounting holes to adjust position.

**No. 62D7**—Bench clamp only.

### Converter Adapter

Converts No. 62D7 clamp and No. 62K2 base plate to hold any Hunter ½" shaft fixture.

**No. 62D8**—Converter adapter only.



# Circuit Board Holders

For Holding Printed Circuits — Oval, Square or Oblong Boards and Other Precise Electronic Assemblies

## Miniature Holder

For holding small transistor radio chassis and other small printed circuit boards. Unit can be turned completely around by the loosening of one knob. Set screw at base allows any desired angle of tilt. Strong, rigid and well made.

No. 62Z—Miniature Circuit Board Holder.

## NEW! Printed Circuit Board Holder

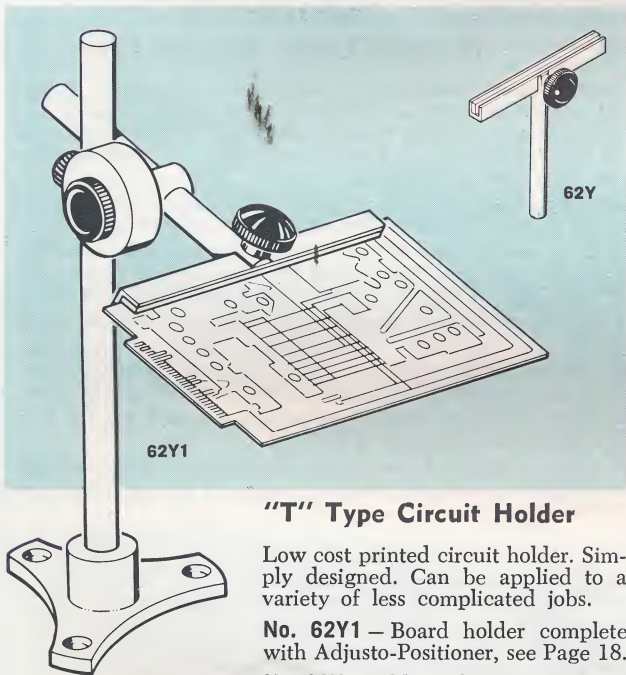
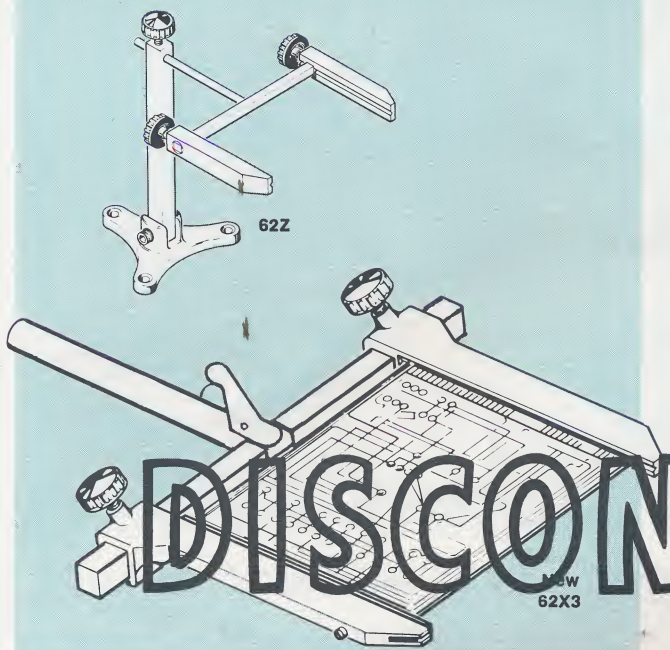
Will hold assembly boards of all shapes, terminal boards, cable connectors and various other small assemblies. Quality built in every way with precise adjustment and lateral motion. Designed to be used with Adjusto-Positioner described on Page 18 of this Catalog.

Arm rotates 360° and tilts. Adjustable jaws hold work gently but firmly. Has spring loaded quick release arm for extra fast board changing.

Capacity: ¼-in. to 1-in. wide boards.

No. 62X3—New Printed Circuit Board Holder.

Not available until May 1, 1964

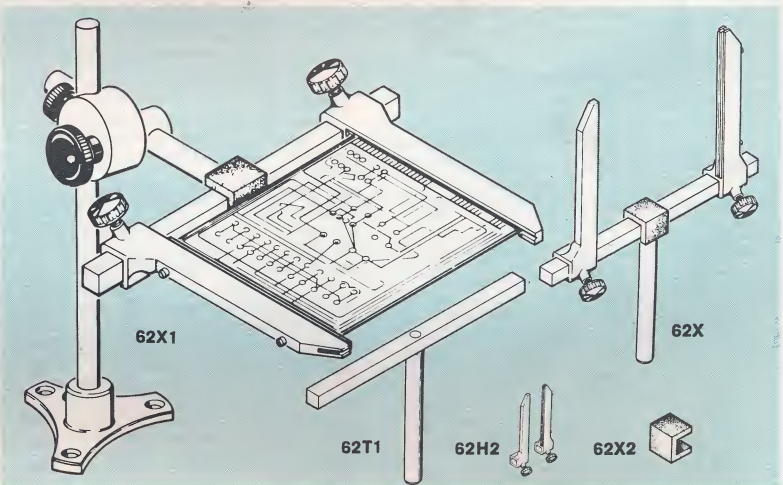


## "T" Type Circuit Holder

Low cost printed circuit holder. Simply designed. Can be applied to a variety of less complicated jobs.

No. 62Y1—Board holder complete with Adjusto-Positioner, see Page 18.

No. 62Y—Holder only. 6-inches long, 6-inches high.



## Popular Spring Loaded Arm Printed Circuit Holder

One knob allows complete rotation of job. Spring loaded arm makes "snugging up" fast and simple. Makes board changing easy — without touching knobs. Easy to set at desired height and angle; flipping board is fast.

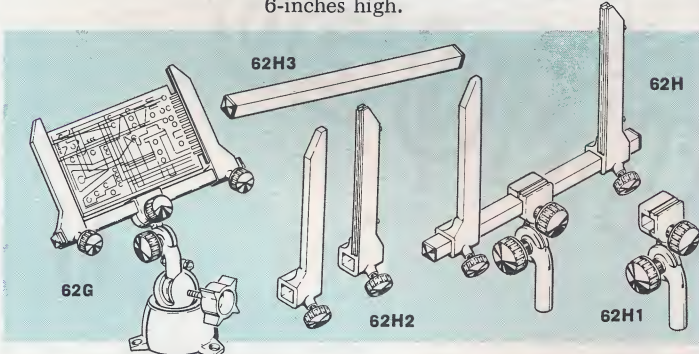
No. 62X1—Printed circuit holder and Adjusto-Positioner.

No. 62X—Printed Circuit Holder Only.

No. 62T1—10-in. T-bar only.

No. 62X2—Sponge rubber rest pad.

No. 62H2—Pair of holder arms; one with spring tension.



## Deluxe Printed Circuit Holder

Use with Pana-Positioner, see pa. 18. Holds oval, square and oblong board. Turns work surface 360 degrees, horizontal, vertical, any desired position. Spring tension arm allows board to be removed, turned, inserted without adjustment.

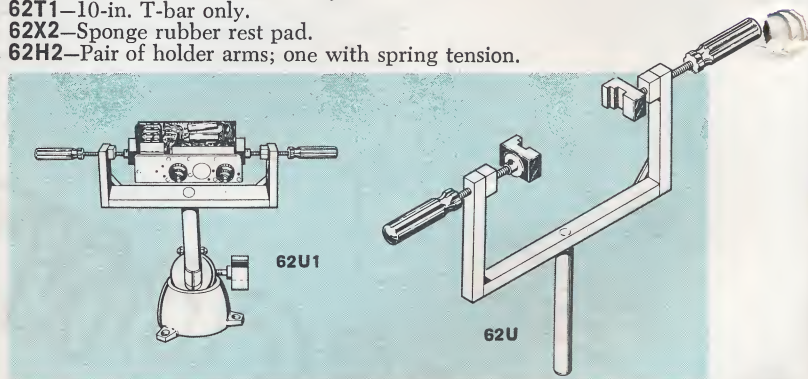
No. 62G—Holder with Pana-Positioner.

No. 62H—Holder only, 10-in. wide.

No. 62H3—10-in. bar. Other lengths available, write for information.

No. 62H2—Pair arms, one with spring.

No. 62H1—4½-in. post.



## Rotator Jig Makes Difficult Jobs Easy

Specially designed for jobs requiring work alternately on top and bottom of unit. Rotates job completely without adjustment of holding screws. "Fraction" design holds firm while allowing rotation. Speeds, simplifies work.

No. 62U1—Rotator Jig with Pana-Positioner. See page 18.

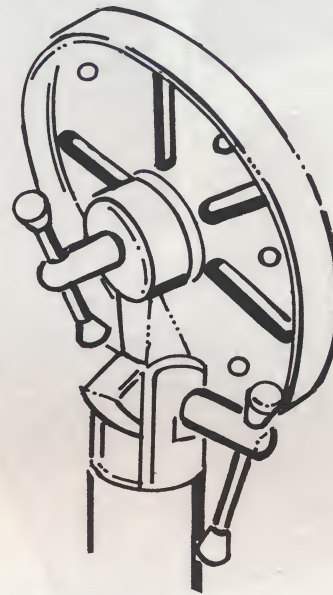
No. 62U2—Rotator Jig with Adjusto-Positioner.

No. 62U—Jig only. 16" arm to arm, 8" cap., 5".



# New! The Work Positioner with Extra Flexibility

Versatile!  
Compound  
Tilt and  
Rotating  
Head



62N4

**Does more things than any other  
stand type work holder**

**Hold firmly**

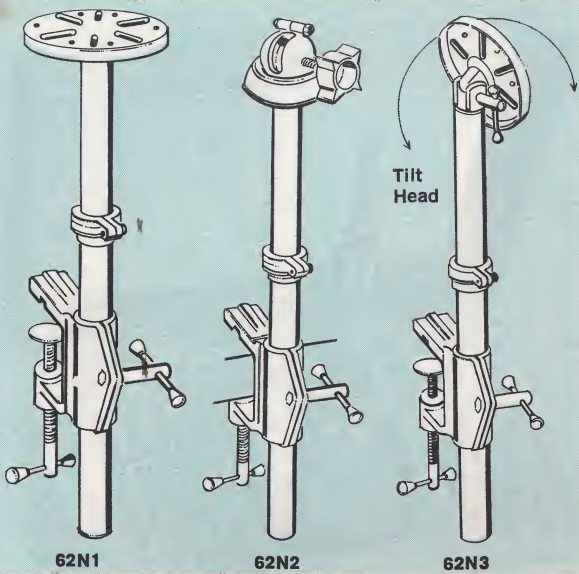
**Fast, easy change of position**

**Quality made in every detail**

Ideal work  
holder for  
tool and die  
work

New work positioner, the versatility of which will appeal to every factory production manager. Head tilts, rotates 360 degrees, shaft can be turned upside down if need be. Steel shaft 18-in. long, not only takes compound head offered with unit, but any other head on this page with 1-5/32-in. shaft. Head plate 5-inches in diameter, drilled and slotted to hold work. Plate is strong die cast aluminum alloy. Unit complete with clamp type fastener for attaching to work bench or table.

**No. 62N4**—Compound head unit, with stand and attaching clamp.



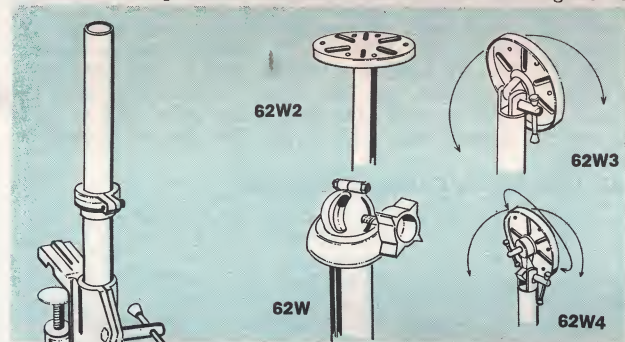
## Stand Type Work Positioners

Solves many work holding problems. Choice of three styles in addition to revolutionary compound-head type at right; consists of 18x1 1/4-in. hollow steel standard, with head and screw type bench clamp. (Permanently attached clamp, No. 62N6, at right can also be used.) All heads have 1-5/32-in. holding shaft for inserting into standard — all interchangeable. Plate type heads, 5-in. dia., made from die-cast aluminum alloy, drilled and slotted for work holding. Pana-Positioner described Pa. 18.

**No. 62N1**—Work positioner with standard head. Can rotate.

**No. 62N2**—Work positioner with Pana-Positioner head. Holds any 5/8-in. shaft fixture. Rotates full circle, can be set at any compound angle wanted.

**No. 62N3**—Work positioner with Tilt-Head. Head tilts either right or left.



**Have a Spare. Save Time.**

**No. 62N**—18x1 1/4-in. hollow steel standard. With bench clamp. Takes 1-5/32-in. shafts.

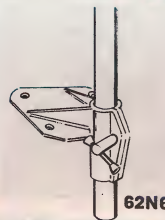
**No. 62W2**—Rigid head. 5-in. dia. 1-5/32-in. shaft.

**No. 62W3**—Tilt head, 5-in. dia. 1-5/32-in. shaft.

**No. 62W**—Pana-positioner head. 1-5/32-in. shaft.

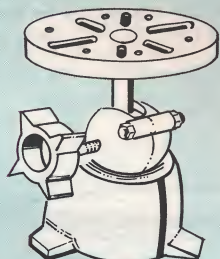
**No. 62W4**—Compound tilt — rotate head. 1-5/32-in. shaft. See description above.

## Permanent Mounting Clamp To Hold Work Positioner Standard



New work positioner mounting clamp allows permanent mounting of work positioners on bench, table or work station. Holds standards firmly and securely. Made from strong die-cast aluminum alloy, with heli-coil spring steel inserts strengthening threaded holding clamp. For all standards on this page.

**No. 62N6**—Permanently mounted clamp. With hollow steel standard.



62J2

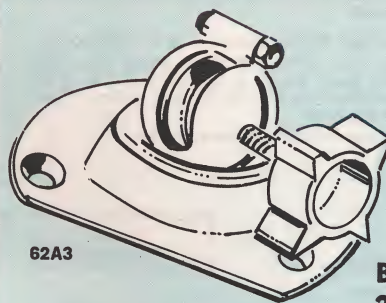
## Standard Pana-Positioner, Face Plate

Standard Pana-Positioner, No. 62A, see Pa. 18, with face plate below. Inexpensive, practical work holding setup. Very functional. Allows complete rotation of work, tilts to any angle size of work allows.

**No. 62J2**—Pana positioner, face plate.

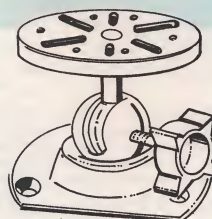
## Face Plate Only

**No. 62W1**—5-in. die cast aluminum face plate with 5/8-in. shaft. Plate drilled, slotted for work holding.



62A3

**Base only  
2 5/8-in. high**



62J3

## Low Base Positioner with Accessories. Conserves Space

For use where lower working heights are wanted or where space is at a premium. These units have all the fine quality of the standard line, see Pa. 18.

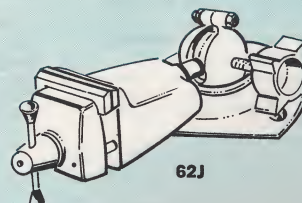
**No. 62A3**—Low Base Positioner. Only 2 5/8-in. high; 5-in. wide.

**No. 62J1**—Low Base Horizontal Vise. 5 1/4-in. high, 5 1/2-in. long, 5-in. wide. Vise has 2 1/2-in. jaw width, opens to 2 1/2-in.

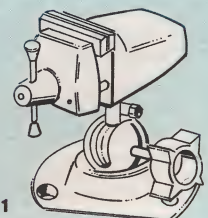
**No. 62J**—Low Base Vertical Vise. 3 3/4-in. high, 9 3/4-in. long, 5-in. wide. Vise has 2 1/2-in. jaw width, opens to 2 1/2-in.

**No. 62J3**—Low Base Positioner with face plate No. 62W1 at left.

## Low-Base Positioner

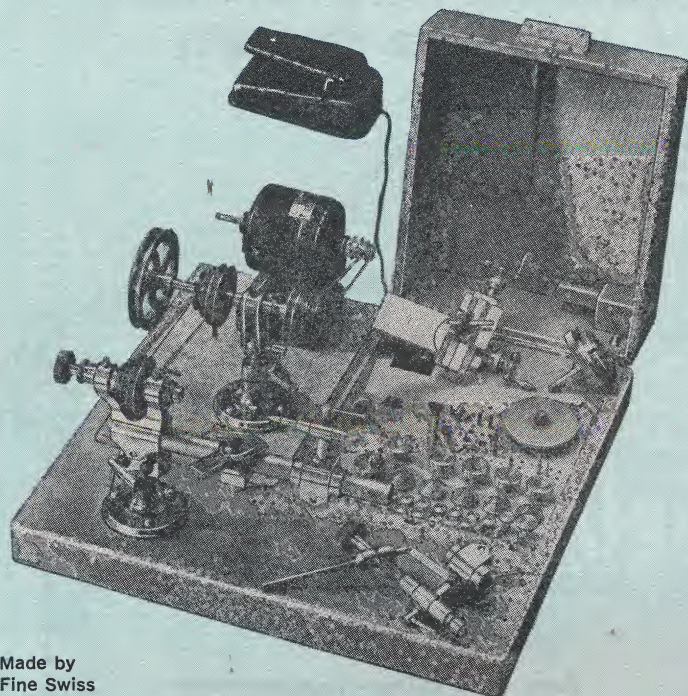


62J1



62J





Made by  
Fine Swiss  
Craftsmen



Made  
in  
Switzerland

## High Precision Jewelers Lathe

For precision manufacturing at extremely close tolerances. Complete unit consists of: 1 base plate and hinged covered cabinet, headstock, graver rest, foot, bed 12" — countershaft — drilling attachment and tailstock combination — grinding wheel, adaptor, cross slide, set of 6 tool bits — tool post set of 30 collets opening range 0.4 to 4.2 mm — set of 5 cement brasses — set of 5 split exterior chucks (gripping) — set of 5 ladder interior chucks (step chucks) — filing rest — set of 8 lathe dogs — driving plate — universal jaw (3 jaw type) — set of 8 female and male centers and holder — motor 110 volt, rheostat control — milling attachment — transmission for milling attachment.

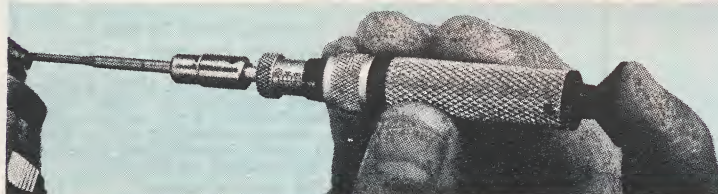
Spare parts for above lathe always ready for immediate delivery.

**Lathe set F-234/A**—Complete as above with inch (.0005) graduation on cross slide and milling attachment — for production work.  
**Lathe set F-234/B** — Same with mm graduations for scientific labs.

## High Precision Drill-Debur-Reamer Set

Complete set for very high precision, fine tolerance work. Set consists of: drill stand with all needed holders and collets; 12 conical sinkers, .039 to .320 MM dia.; 7 sinkers, various shapes, .039 to .116 MM dia.; 12 deburring sinkers, .069 to .288 MM dia.; 15 pivot drills (one side flat, one side round) .027 to .120 dia.; 12 pivot sinkers from .039 to .160 MM dia.; 4 flat drills, .079 to .197 MM dia.; and 27 reamers from .015 to .160 MM dia. All packed in fine wood case.

**No. F-231**—Complete Drill-Debur-Reamer set.



**Jewelers Torque Screwdrivers**

Can be set in the inch-ounce range for sub- and micro-miniature work. Built for delicate, precision assembly. Torques both clockwise and counterclockwise with equal accuracy. Handles down to No. 0 and 00 nuts and screws.

Specs: Range, 1 to 20 in.-oz. in 1/2-oz. increments; universal drive; 3 1/2-in. long; weighs 28 grams.

**No. 527**—Jewelers Torque Screwdriver. Above driver takes blades shown on page 10 of Hunter Regular Industrial Catalog. In ordering specify they are for No. 527 Torque driver.

Inch Ounce  
Range



Inch Pound  
Range



### Adjustable Torque Screwdrivers in Inch-Ounce and Inch-Pound Ranges

Built for the electronic and missile industry where exactness and accuracy are a must. Have these features: Can be dropped without damage to the unit; Has micro-adjustment, which cannot be influenced by operator; Can be regulated in field as per Mil-H-26497; Takes over 1000 types of 1/4-in. attachments.

#### Adjustable Ounce Range — 2 to 100 in.-oz.

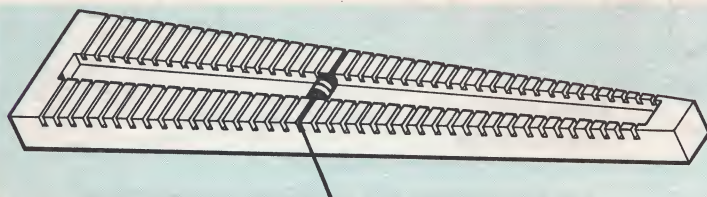
Fed. Stk. No. 5120-725-7748. Meets spec. Mil-H-26497. Spec: Range 2 to 100 in.-oz. in 2 in.-oz. increments; 1/4-in. female hex drive; 6 1/2-in. long; weigh 8 oz.

**No. 525**—Inch-Ounce Torque Driver.

#### Adjustable Pound Range — 1 to 30 in.-lbs.

Fed. Stk. No. 5120-725-7747. Meets spec. Mil-H-26497. Specs: Range 1 to 30 in.-lbs. in 1 in.-lb. increments; 1/4-in. female hex drive; 6 1/2-in. long; weighs 8 oz.

**No. 526**—Inch-Pound Torque Driver.



**Hunter Component Lead Bending Guide**

Forms up to 1200 leads per hour with no lead nicking; all bending done by finger pressure, no tools required. Made of high-impact cycolac plastic. Each model has 40 lead forming positions. 7 1/2-in. long. Weight, 2.5 oz.

Stock No.	Size	Centers
51KL	1/4 watt	.375 to 1.50-in.
51KM	1/2 watt	.50 to 1.50-in.
51KN	One each above two	

Stock No.	Size	Centers
51KP	1 watt	.75 to 2.5-in.
51KQ	2 watt	.875 to 2.5-in.
51KR	One each above two	



**Nylon Lead Forming Tool**

Designed to be used for forming component leads before placement on printed circuit boards and for bending extended leads flat on the circuit pads without nicking or marring. One end formed like a pencil point for radius forming leads, the other screwdriver shaped to be used in pressing leads down to circuit pad after insertion and trimming. 8-inches long, 1/4-inch diameter. Pkg. of 10.

**No. 51FN**—Nylon Lead Forming Tool.

Developed by  
Hunter Special  
Products Div.



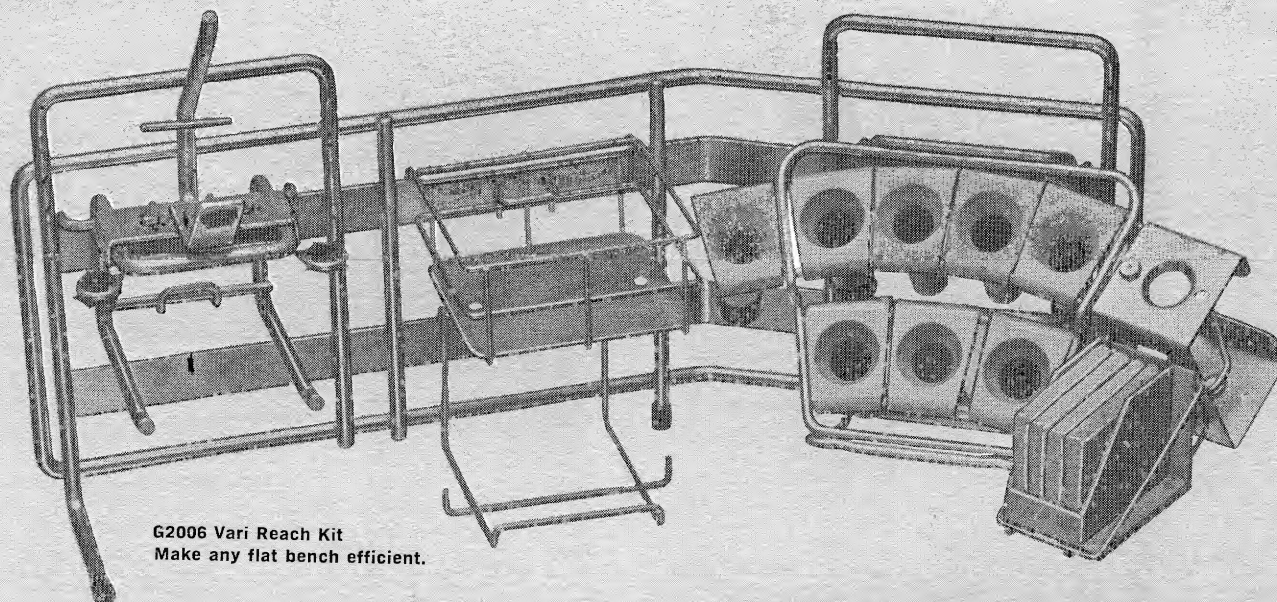
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**G2006 Vari Reach Kit**  
Make any flat bench efficient.

## Assembly Station Accessories

The most attractive, efficient assembly station equipment ever designed. Aimed at getting maximum production by automatically controlling reach patterns and reducing operator fatigue.

Units offered on this page can be utilized by many assemblers in conjunction with their present equipment.

These units are also adaptable to popular lines of production stations presently on the market.

**No. G60059**—Tool Positioner. Plastic tool inserts, mounted in a metal frame. Designed specially with the needs of electronic assembly in mind. Room for screwdrivers, pliers, soldering iron. Tip cleaner, comfortable use. Easily portable, can be used with present work stations and add to production efficiency. 12½-in. wide, 7¼-in. deep, 7-in. high.

**No. G99008**—Replacement plastic tool inserts. 1-7/16-in. opening tapering to ¾-in. Made from high-impact styrene plastic.

**No. G99009**—Solder iron holder. Heat resistant lining.

**No. G99012**—Soldering iron tip cleaner assembly. Four sponges housed in a plastic box and mounted in a wire frame. Can be used as replacement with above unit or used as individual item.

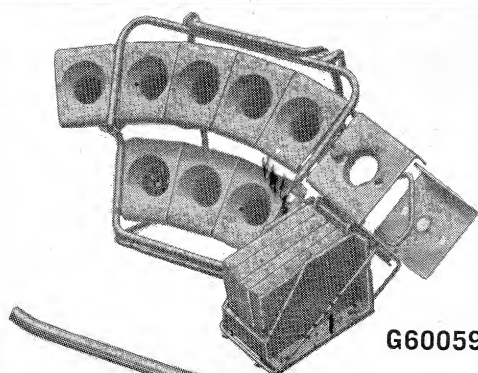
**No. GT-100S**—Sponge only for above tip cleaner.

**No. G60009**—Combination spool holder. Takes standard solder spools and lacing cord for assembly use. 6.00-in. wide, 6.00-in. deep, 9.00-in. high.

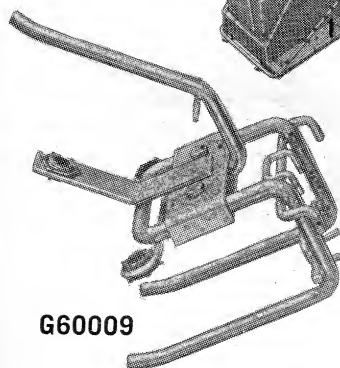
**No. G60008**—Large bottle holder. Holds bottles up to 4¾-in. dia. capacity. Holds bottle securely, reduces dangers of accidents from overturn.

**No. G99044**—Kim wipe holder. Holds standard packages of Kim wipes.

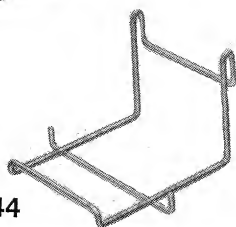
**No. G99042**—Rack Accessory. Basic unit on which to assemble tool positioners and various types of holders. Allows great versatility in placing tools and equipment at station operators finger tips. Strongly made from ¾-in. wire, cadmium plated. 24.0-in. wide, 10¼-in. high, 8½-in. deep.



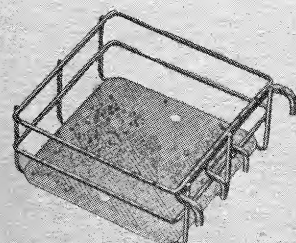
**G60059**



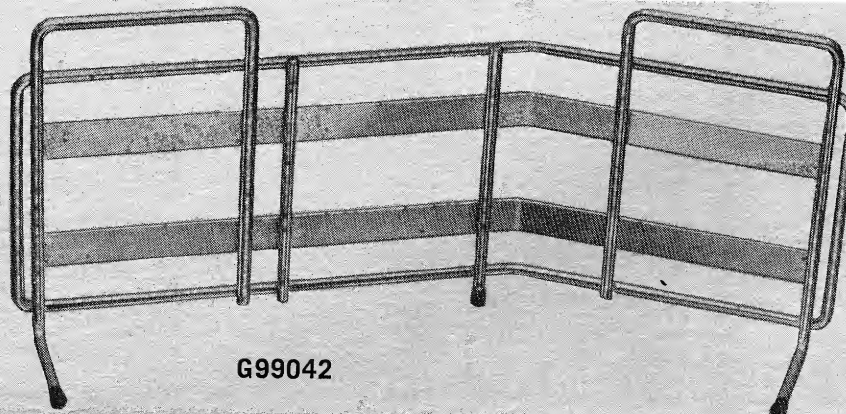
**G60009**



**G99044**



**G60008**



**G99042**



# **HUNTER TOOLS**

## **Master INDUSTRIAL NET PRICE SCHEDULE**

To Be Used In Conjunction With Both Hunter 1964-1965 and 1964A-1965A Catalogs

Supersedes All Previous Hunter Price Schedules, Effective March 1, 1964

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**GUARANTEE:** All Hunter Tool products are guaranteed to be free of defects in material and workmanship. Hunter tools are guaranteed to perform the work for which they are designed. Defective tools should be returned to the factory with transportation charges pre-paid. Tools will be replaced, repaired or credited at current prices. Special tools not listed in this catalog or price sheet, do not carry the regular guarantee, nor any tools that have been altered or ground from their original design.

**PRICES:** All prices and discount schedules are subject to change without notice.

### **SPECIAL NOTES**

**HUNTER NUMBER SYSTEM:** Numerals and alphabet are first. Alphabet and numerals follow.

**DISPLAYS:** "D" or "DD" preceding the code number designates a display.

**KITS & STANDS:** "K" or "S" preceding the code number designates Kit or Stand respectively.

**INDIVIDUALLY PACKAGED TOOLS:** "\*" preceding the code number means that tool is always and only individually packaged in display type package that will hang on peg board type hook.



**MAIN PLANT**

**SALES OFFICE**

**WAREHOUSE**

9851 Alburtis Ave.  
Santa Fe Springs, Calif.  
☐ 692-7281  
☐ 723-4659  
Area Code 213

A Division of HUNTER INDUSTRIES





STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
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## FOLDING HEX SETS-

### SMITTYS

D1FA	Smitty Dispenser, Steel 6 ea. 1P5, 1P6, 3 ea. 1P7, 1P8, 1P2, 1P3, 1P4		
1P2	Folding Hex Set	2.52	3.24
1P3	Folding Hex Set	2.52	3.24
1P4	Folding Hex Set	2.52	3.24
1P5	Folding Hex Set	1.22	1.55
D1P5	Counter Display of 10 ea. 1P5		
1P6	Folding Hex Set	1.22	1.55
D1P6	Counter Display of 10 ea. 1P6		
1P7	Folding Hex Set	1.25	1.60
D1P7	Counter Display of 10 ea. 1P7		
1P8	Folding Hex Set	1.54	1.95
D1P8	Counter Display of 10 ea. 1P8		
D1P70	Counter Display of 5 ea. 1P5, 1P6		
D1P70A	Counter Display of 5 ea. 1P7, 1P8		

### REPLACEMENT BLADES

1P21	7/32 Blade for 1P2	.24	.30
1P22	1/4 Blade for 1P2	.26	.34
1P23	5/16 Blade for 1P2	.49	.62
1P24	3/8 Blade for 1P2	.61	.78
1P31	5/32 Blade for 1P3	.18	.22
1P32	3/16 Blade for 1P3	.20	.26
1P33	7/32 Blade for 1P3	.24	.30
1P34	1/4 Blade for 1P3	.39	.50
1P35	5/16 Blade for 1P3	.48	.60
1P41	3/32 Blade for 1P4	.14	.18
1P42	1/8 Blade for 1P4	.16	.20
1P43	5/32 Blade for 1P4	.18	.22
1P44	3/16 Blade for 1P4	.26	.34
1P45	7/32 Blade for 1P4	.33	.42
1P46	1/4 Blade for 1P4	.36	.46
1P51	3/32 Blade for 1P5	.10	.12
1P52	1/8 Blade for 1P5	.11	.14
1P53	5/32 Blade for 1P5	.13	.16
1P54	3/16 Blade for 1P5	.14	.18
1P55	7/32 Blade for 1P5	.16	.20
1P61	.050 Blade for 1P6	.10	.12
1P62	1/16 Blade for 1P6	.10	.12
1P63	5/64 Blade for 1P6	.10	.12
1P64	3/32 Blade for 1P6	.10	.12
1P65	1/8 Blade for 1P6	.11	.14
1P66	5/32 Blade for 1P6	.13	.16
1P71	.050 Blade for 1P7	.11	.12
1P72	1/16 Blade for 1P7	.13	.12
1P73	5/64 Blade for 1P7	.10	.12
1P74	3/32 Blade for 1P7	.10	.12
1P75	7/64 Blade for 1P7	.11	.14
1P76	1/8 Blade for 1P7	.11	.14
1P77	9/64 Blade for 1P7	.13	.16
1P81	3/32 Blade for 1P8	.11	.14
1P82	7/64 Blade for 1P8	.13	.16
1P83	1/8 Blade for 1P8	.13	.16
1P84	9/64 Blade for 1P8	.14	.18
1P85	5/32 Blade for 1P8	.16	.20
1P86	3/16 Blade for 1P8	.18	.22
1P87	7/32 Blade for 1P8	.21	.28
1P88	1/4 Blade for 1P8	.30	.38

## "L" TYPE HEX KEYS

1Y	Short Arm Black .028	3.13c	4.00c
1Z	Short Arm Black .035	3.13c	4.00c
2	Short Arm Black .050	3.13c	4.00c
2A	Short Arm Black 1/16	3.13c	4.00c
2B	Short Arm Black 5/64	3.29c	4.20c
2C	Short Arm Black 3/32	4.06c	5.20c
2C1	Short Arm Black 7/64	4.06c	5.20c
2D	Short Arm Black 1/8	4.38c	5.60c
2D1	Short Arm Black 9/64	4.54c	5.80c

STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
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## "L" TYPE HEX KEYS

2E	Short Arm Black 5/32	5.48c	7.00c
2F	Short Arm Black 3/16	5.79c	7.40c
2G	Short Arm Black 7/32	7.04c	9.00c
2H	Short Arm Black 1/4	8.29c	10.60c
2I	Short Arm Black 5/16	13.91c	17.80c
2J	Short Arm Black 3/8	19.87c	25.40c
3	Long Arm Black 5/64	4.38c	5.60c
3A	Long Arm Black 3/32	4.85c	6.20c
3A1	Long Arm Black 7/64	4.85c	6.20c
3B	Long Arm Black 1/8	5.16c	6.60c
3B1	Long Arm Black 9/64	5.16c	6.60c
3C	Long Arm Black 5/32	7.04c	9.00c
3D	Long Arm Black 3/16	7.81c	10.00c
3E	Long Arm Black 7/32	10.00c	12.80c
3F	Long Arm Black 1/4	12.19c	15.60c
3G	Long Arm Black 5/16	20.31c	26.00c
3H	Long Arm Black 3/8	30.36c	38.80c
4	Extra Long Black 5/64	5.16c	6.60c
4A	Extra Long Black 3/32	7.19c	9.20c
4A1	Extra Long Black 7/64	7.19c	9.20c
4B	Extra Long Black 1/8	7.50c	9.60c
4B1	Extra Long Black 9/64	7.50c	9.60c
4C	Extra Long Black 5/32	9.06c	11.60c
4D	Extra Long Black 3/16	11.36c	14.54c
4E	Extra Long Black 7/32	13.68c	17.50c
4F	Extra Long Black 1/4	13.29c	17.00c

## HEX DRIVERS

4Y	.028 x 4	.72	.92
4Z	.035 x 4	.72	.92
5	.050 x 4 7/8	.56	.72
5A	1/16 x 5 1/8	.56	.72
5B	3/4 x 6	.60	.76
5C	3/32 x 6 3/8	.69	.88
5C1	7/64 x 6 3/4	.72	.92
5D	1/8 x 6 3/4	.72	.92
5D1	3/4 x 7	.72	.92
5E	5/32 x 7 7/8	.72	.92
5F	3/16 x 8	.79	1.00
5G	1/32 x 8 3/8	.88	1.12
5H	1/4 x 9	1.06	1.36
5I	5/16 x 10	1.25	1.60
D5J	Counter Display of Hex Drivers, 1 ea. 5, 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, 5I		
5L	Hex Driver Set of 10 in Box	7.83	10.00
K5L1	Hex Driver Set of 14 in Box	10.70	13.68
K5M	Hex Driver Kit of 1 ea., 5, 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, 5I	10.48	13.40
K5M1	Hex Driver Kit of all 14 Models	11.88	15.20
K5M2	Hex Driver Kit of 1 ea., 4Y, 4Z, 5, 5A, 5B, 5C, 5C1, 5D, 5D1, 5E	7.74	9.90
K5N	Hex Driver Kit of 1 ea., 5, 5A, 5B, 5C, 5D	4.54	5.80
K5N1	Hex Driver Kit of 5 Smallest Sizes	4.07	5.20
K5N2	Hex Driver Kit of 1 ea., 5, 5A, 5B, 5C, 5C1, 5D, 5D1	5.48	7.00

### FLEXIBLE SHAFT HEX DRIVERS

5P	1/16 x 8	1.89	2.42
5Q	3/64 x 8	1.89	2.42
5R	3/32 x 8	1.89	2.42
5R1	7/64 x 8	1.89	2.42
5S	1/8 x 8	1.89	2.42
5S1	3/4 x 8	1.89	2.42
5T	5/32 x 8	1.89	2.42
K5U	Flex Hex Kit of 1 ea., 5P, 5Q, 5R, 5S, 5T	11.06	14.16
K5U1	Flex Hex Kit of all 7 sizes	14.41	18.46



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## HEX DRIVERS

### FLEXIBLE SHAFT HEX DRIVERS

5WA	Handle Only for Flex Driver	1.96	2.50
5W1	Flex Driver Tip $\frac{1}{16}$	.74	.94
5W2	Flex Driver Tip $\frac{3}{32}$	.74	.94
5W3	Flex Driver Tip $\frac{1}{8}$	.74	.94
5W3A	Flex Driver Tip $\frac{1}{8}$	.74	.94
5W4	Flex Driver Tip $\frac{1}{4}$	.74	.94
5W4A	Flex Driver Tip $\frac{1}{4}$	.74	.94
5W5	Flex Driver Tip $\frac{1}{2}$	.74	.94
K5W	Kit of Flex Shaft & Tips,	6.82	8.72
	5W1, 5W2, 5W3, 5W4, 5W5		
K5W1	Kit of Flex Shaft & all 7 Tips	8.01	10.24

## HEX KITS - L TYPE KEY

6	Short Arm, 9 pc.	.99	1.26
D6	Counter Display of 10 #6		
6A	Short Arm, 8 pc.	.83	1.06
6B	Short Arm, 13 pc.	1.13	1.44
6C	Short Arm & Long Arm, 20 pc.	2.44	3.12
6C1	Short Arm and Long Arm, 22 pc.	2.58	3.30
6D	Long Arm, 7 pc.	1.18	1.50
6D1	Extra Long Arm, 9 pc.	1.33	1.70

## SPLINE PRODUCTS

7	Folding Spline Set "Smitty" Type	1.85	2.36
DD7	Card of 5 #7 Kits		11.90

### SPLINE DRIVERS

8	.048-4 x $4\frac{1}{4}$	.58	.74
8A	.060 x $4\frac{1}{4}$	.58	.74
8B	.076-4 x $4\frac{1}{4}$	.58	.74
8C	.072 x $4\frac{1}{4}$	.58	.74
8D	.096 x $4\frac{1}{4}$	.58	.74
8E	.111 x $4\frac{1}{4}$	.58	.74

### SPLINE "L" KEYS

8F1	.033-4	7.81c	10.00c
8F2	.048-4	7.81c	10.00c
8F3	.060	5.32c	6.80c
8F4	.069-4	5.32c	6.80c
8F5	.076-4	5.32c	6.80c
8F6	.072	7.81c	10.00c
8F7	.096	5.48c	7.00c
8F8	.111	10.41c	13.32c
8F9	.144	10.41c	13.32c
9	Hex & Spline L Key Kit	1.33	1.70
9B	Spline L Key Kit 7 pc.	.80	1.02

## MAGIC TIP

10A	$\frac{1}{4}$ x 4	1.75	2.24
10B	$\frac{1}{4}$ x $6\frac{1}{4}$	2.04	2.60
10C	$\frac{1}{4}$ x $7\frac{1}{2}$	2.25	2.88
10D	$\frac{1}{4}$ x $11\frac{1}{4}$	2.58	3.30
10E3	$\frac{1}{8}$ x $2\frac{1}{2}$	2.00	2.56
DD10E3	Card of 5, 10E3		12.90
10E4	$\frac{1}{8}$ x 4	2.00	2.56
10E7	$\frac{1}{8}$ x 7	2.23	2.84
10M3	$\frac{3}{16}$ x $3\frac{1}{2}$	1.64	2.10
10M5	$\frac{3}{16}$ x $5\frac{1}{4}$	1.88	2.40
10M8	$\frac{3}{16}$ x $8\frac{1}{4}$	2.13	2.72
10M12	$\frac{3}{16}$ x $11\frac{1}{4}$	2.50	3.20
D10P	Display 1 ea., 10A, 10B, 10C, 10D, 10M3, 10M5, 10M8, 10M12		
D10Q	Display of 2 ea., 10E3, 10M5, 10M3, 10M8, 10M12		
D10R	Display of 2 ea., 10M5, 10M8, 10B, 10C		

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## QUICK-LOCK TOOLS

11	Small Quick Lock Hdle	1.35	1.72
11A	Lg. Quick Lock Hdle	1.35	1.72
11AC	$\frac{1}{8}$ x $6\frac{1}{2}$ Screw. Blade	.60	.76
11B	$\frac{3}{16}$ x 4 Screw. Blade	.60	.76
11C	$\frac{3}{16}$ x 6 Screw. Blade	.63	.80
11D	$\frac{1}{4}$ x 4 Screw. Blade	.63	.80
11E	$\frac{1}{4}$ x 6 Screw. Blade	.66	.84
11F	#1 x 4 Phillips Blade	.60	.76
11G	#2 x 4 Phillips Blade	.72	.92
K11GA	Quick Lock Kit	6.20	7.92
11H	$\frac{3}{16}$ x 4 Nutdriver Blade	.56	.72
11I	$\frac{1}{4}$ x 4 Nutdriver Blade	.56	.72
11J	$\frac{3}{16}$ x 4 Nutdriver Blade	.59	.76
11K	$\frac{1}{32}$ x 4 Nutdriver Blade	.75	.96
11L	$\frac{3}{16}$ x 4 Nutdriver Blade	.75	.96
K11LA	Quick Lock Nutdriver Kit	5.63	7.20
11LB	.050 x 4 Hex Blade	.56	.72
11M	$\frac{1}{16}$ x 4 Hex Blade	.50	.64
11M1	$\frac{1}{16}$ x 8 Hex Blade	.66	.84
11N	$\frac{3}{4}$ x 4 Hex Blade	.50	.64
11N1	$\frac{3}{4}$ x 8 Hex Blade	.66	.84
11P	$\frac{3}{32}$ x 4 Hex Blade	.50	.64
11P1	$\frac{3}{32}$ x 8 Hex Blade	.66	.84
11PA	$\frac{3}{4}$ x 4 Hex Blade	.50	.64
11Q	$\frac{1}{8}$ x 4 Hex Blade	.50	.64
11Q1	$\frac{1}{8}$ x 8 Hex Blade	.66	.84
11QA	$\frac{3}{4}$ x 4 Hex Blade	.60	.76
11R	$\frac{3}{32}$ x 4 Hex Blade	.60	.76
11R1	$\frac{3}{32}$ x 8 Hex Blade	.75	.96
11S	$\frac{3}{16}$ x 4 Hex Blade	.60	.76
11S1	$\frac{3}{16}$ x 8 Hex Blade	.75	.96
11SB	$\frac{1}{4}$ x 4 Hex Blade	.72	.92
11SC	$\frac{1}{32}$ x 4 Hex Blade	.60	.76
K11SA	Quick Lock Hex Kit	5.63	7.20
K11SA1	Quick Lock Hex Kit 8" Blade	6.42	8.20
K11SB	Quick Lock Hex Kit	6.57	8.40
11T	.048-4 Spline Blade	.57	.72
11T1	.048-4 x 8 Spline Blade	.73	.92
11U	.060-6 Spline Blade	.57	.72
11U1	.060-6 x 8 Spline Blade	.73	.92
11UA	.069-4 Spline Blade	.57	.72
11UA1	.069-4 x 8 Spline Blade	.73	.92
11V	.072-6 Spline Blade	.57	.72
11V1	.072-6 x 8 Spline Blade	.73	.92
11W	.076-4 Spline Blade	.57	.72
11W1	.076-4 x 8 Spline Blade	.73	.92
11X	.096-6 Spline Blade	.60	.76
11X1	.096-6 x 8 Spline Blade	.75	.96
11Y	.111-6 Spline Blade	.60	.76
11Y1	.111-6 x 8 Spline Blade	.75	.96
K11YA	Quick Lock Spline Kit	5.86	7.50
K11YA1	Quick Lock Spline Kit 8" Blades	6.87	8.80
11Z	Quick Lock Awl Blade	.55	.70
K12C	Quick Lock Kit Mixed Blades	10.00	12.80
K12M	All Purpose Quick Lock Kit	21.49	27.50

## SCREWDRIVERS

13	Key Chain Screwdriver	.49	.62
13B	Flexible Screwdriver	1.88	2.40
13C	Flexible Phillips	1.88	2.40

### SUB-MINIATURE

13E	.055	.60	.76
13F	.070	.60	.76
13G	.080	.60	.76
13H	.100	.60	.76
13M	Reversible, $\frac{3}{16}$ Screw., #1 Phillips	1.73	2.20
13N	Reversible, $\frac{1}{4}$ Screw., #2 Phillips	1.64	2.10
K13J	Kit of 1 ea., 13E, 13F, 13G, 13H	2.89	3.70



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## SCREWDRIVERS

### ROUND BLADE

14	1/8 x 2 Round Blade	.38	.48
14A	1/8 x 2 3/4 Round Blade	.41	.52
14A1	#14 with pocket clip	.49	.62
14AA	1/8 x 6 Round Blade	.51	.66
14B	3/16 x 4 Round Blade	.74	.94
14C	3/16 x 6 Round Blade	.73	.92
14D	3/16 x 8 Round Blade	.86	1.10
14E	3/16 x 10 Round Blade	.89	1.14
14F	1/4 x 2 Round Blade	.66	.84
14G	1/4 x 4 Round Blade	.81	1.04
14H	1/4 x 6 Round Blade	.88	1.12
14I	1/4 x 8 Round Blade	.94	1.20
14J	Recess Type Scrw. Dr. #1	.81	1.04
14K	Recess Type Scrw. Dr. #2	.86	1.10
14L	Recess Type Scrw. Dr. #3	1.08	1.38
14M	Phillips Scrw. Dr. #0	.81	1.04
14N	Phillips Scrw. Dr. #1	.86	1.10
14P	Phillips Scrw. Dr. #2	1.08	1.38

### SQUARE BLADE

15	1/8 x 2 Square Blade	.55	.70
15A	1/8 x 3 1/2 Square Blade	.68	.86
15B	1/8 x 5 1/2 Square Blade	.77	.98
15C	3/16 x 2 Square Blade	.88	1.12
15D	3/16 x 4 Square Blade	.89	1.14
15E	3/16 x 6 Square Blade	.95	1.22
15F	3/16 x 8 Square Blade	1.08	1.38
15G	1/4 x 1 1/2 Square Blade	.95	1.22
15H	1/4 x 4 Square Blade	1.05	1.34
15I	1/4 x 6 Square Blade	1.11	1.42
15J	1/4 x 8 Square Blade	1.26	1.62
15K	1/4 x 10 Square Blade	1.35	1.72
15L	3/16 x 4 1/2 Square Blade	1.35	1.72
15M	3/16 x 8 1/2 Square Blade	1.44	1.84
15N	3/16 x 6 1/2 Square Blade	1.51	1.94
15P	3/8 x 10 Square Blade	1.68	2.14
15Q	3/8 x 6 1/2 Square Blade	1.75	2.24

### LARGE HANDLE

16	Heavy Duty 3/16 x 4	1.20	1.54
16A	Heavy Duty 3/16 x 6	1.25	1.60
16B	Heavy Duty 3/16 x 8	1.29	1.64
16C	Heavy Duty 1/4 x 4	1.29	1.64
16D	Heavy Duty 1/4 x 6	1.36	1.74
16E	Heavy Duty 1/4 x 8	1.41	1.80

## SCRIBER

17A	Scriber	.48	.60
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## DISPLAYS

D19D	General Screwdriver Assortment, Peg Board Display and Racks
D19E	Screwdriver & Nutdriver Assortment, Peg Board Display and Racks

## NUTDRIVERS

19W	5/32 x 6 3/4	.91	1.16
20	3/16 x 6 3/4	.91	1.16
20A	5/32 x 6 3/4	.91	1.16
20B	1/4 x 6 3/4	.91	1.16
20C	5/32 x 6 3/4	.91	1.16
20D	3/16 x 6 3/4	.91	1.16
20E	11/32 x 6 3/4	.91	1.16
20F	3/8 x 6 3/4	.91	1.16

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## NUTDRIVERS

20G	3/16 x 7	1.04	1.32
20H	1/2 x 7	1.04	1.32
20H1	3/16 x 7 1/4	1.18	1.50
20I	1/4 x 3	.91	1.16
20J	3/16 x 3	.91	1.16
20K	3/8 x 3	.91	1.16
S20L	Stand of 7 Nutdrivers	6.49	8.30
K20M	Kit of 7 Nutdrivers	6.49	8.30

### POCKET NUT DRIVERS

21W	3/8 x 3 1/2	.55	.70
DD21W	Card of 5, 21W		
21X	1 1/2 x 3 1/2	.55	.70
DD21X	Card of 5, 21X		
21Y	3/8 x 3 1/2	.55	.70
DD21Y	Card of 5, 21Y		
22	1/4 x 3 1/2	.55	.70
DD22	Card of 5, 22		
22A	3/16 x 3 1/2	.55	.70
DD22A	Card of 5, 22A		
22B	5/32 x 3 1/2	.55	.70
DD22B	Card of 5, 22B		
22C	1/8 x 3 1/2	.55	.70
DD22C	Card of 5, 22C		
22G1	Handle 1 x 3 3/4	.54	.68
K22GA	Kit—8 pc., 22G1 Handle plus 7 Nut Drivers	4.66	5.96
22J	Atom Nut Driver 1/4, 5/16, 3/8	1.41	1.80
DD22J	Card of 5, 22J		

## SUB-MINIATURE TOOLS

K24	Open End Wrench Kit	2.08	2.66
K24A	Phillips & Hex Kit	1.95	2.50
K24A1	Phillips & Hex Kit, 6 pc.	2.74	3.50
K24B	Screwdriver Kit	1.55	1.98
K24B11	Screwdriver & Awl Kit, 6 pc.	2.35	3.00
K24BB	Screwdriver & Phillips Kit	2.10	2.70
K24BB1	Screwdriver & Phillips Kit, 6 pc.	2.74	3.50
24B1	Handle Only	.44	.56
24B2	Scr. Dr. Blade .055	.23	.30
24B3	Scr. Dr. Blade .070	.23	.30
24B4	Scr. Dr. Blade .080	.23	.30
24B5	Scr. Dr. Blade .100	.23	.30
24B6	Awl Blade	.09	.12
24B7	Phillips Blade #0	.41	.58
24B8	Phillips Blade #1	.41	.58
24C	Nutdriver 3/64	.69	.88
24D	Nutdriver 3/32	.69	.88
24E	Nutdriver 1/4	.69	.88
24F	Nutdriver 1/8	.69	.88
24G	Nutdriver 5/32	.69	.88
24H	Kit of 1 ea. of the Sub. Min. Nutdrivers	3.51	4.50
K24M	Master Variety Kit, 29 pc.	12.89	16.50
K24Q	Kit of Splines	2.65	3.40
K24Q1	Kit of Spline w/Plastic Hndl., 6 pc.	3.29	4.20
24Q2	Spline Blade .033-4	.44	.56
24Q3	Spline Blade .048-4	.44	.56
24Q4	Spline Blade .048-6	.44	.56
24Q5	Spline Blade .060-6	.44	.56
24Q6	Spline Blade .069-4	.44	.56
K24R	Jeweler Nutdriver Set	2.74	3.50
K24S	Kit of Hex Driver	2.18	2.78
K24S1	Kit of Hex Driver w/Plastic Hndl, 6 pc	2.74	3.50
24S2	Hex Blade .028	.44	.56
24S3	Hex Blade .035	.44	.56
24S4	Hex Blade .050	.23	.30
24S5	Hex Blade 1/16	.23	.30
24S6	Hex Blade 3/64	.23	.30
24T1	Plastic Handle 1/2 x 2	.70	.90
24U1	End Wrench Blade 3/4	.39	.50
24U2	End Wrench Blade 5/8	.39	.50
24U3	End Wrench Blade 1 1/4	.39	.50
24U4	End Wrench Blade 1 1/2	.39	.50



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## SUB-MINIATURE TOOLS

24U5	End Wrench Blade $\frac{5}{32}$	.39	.50
K24U	Kit, End Wrench, 6 pc.	3.36	4.30
24V1	Nut Dr. Blade $\frac{5}{64}$	.50	.64
24V2	Nut Dr. Blade $\frac{3}{32}$	.50	.64
24V3	Nut Dr. Blade $\frac{1}{4}$	.50	.64
24V4	Nut Dr. Blade $\frac{1}{8}$	.50	.64
24V5	Nut Dr. Blade $\frac{5}{32}$	.50	.64
K24V	Kit, Nut Dr., 6 pc.	3.83	4.90

## PLIER GRIPS

*25	Small Plastic Grips $\frac{3}{16}$ " x 3" $\frac{1}{2}$	.20	.26
*25A	Med. Plastic Grips $\frac{7}{16}$ " x 4"	.23	.30
*25B	Large Plastic Grips $\frac{1}{2}$ " x 5"	.28	.36

## ADJUSTABLE WRENCHES

26D	Adj. End Wrench w/Cushion Grip 4"	2.25	2.88
26D1	Adj. End Wrench 4"	1.73	2.20
26E	Adj. End Wrench w/Cushion Grip 6"	2.31	2.96
26E1	Adj. End Wrench 6"	1.80	2.30
26F	Adj. End Wrench w/Cushion Grip 8"	2.88	3.68
26F1	Adj. End Wrench 8"	2.11	2.70
26G	Adj. End Wrench w/Cushion Grip 10"	3.48	4.44
26G1	Adj. End Wrench 10"	2.58	3.30
26H	Adj. End Wrench w/Cushion Grip 12"	4.94	6.32
26H1	Adj. End Wrench 12"	3.91	5.00

## INTERNAL PIPE WRENCHES

*29	$\frac{3}{8}$ "	1.72	2.20
*29A	$\frac{1}{2}$ "	1.88	2.40
*29B	$\frac{3}{4}$ "	2.00	2.56
*29C	1"	2.33	2.98
K29D	Kit of Internal Pipe Wrenches	8.22	10.50

## HACKSAWS

31	Deluxe	3.13	4.00
31A	Special	1.33	1.70
31B	Saw Blade 12"—18	.72	.92
31C	Saw Blade 12"—24	.72	.92
31D	Saw Blade 12"—32	.72	.92

## HAMMERS

### CLAW HAMMERS

35	16 oz. Claw Curved	4.06	5.20
35A	16 oz. Claw Straight	4.06	5.20
35B	20 oz. Claw Curved	4.38	5.60
35C	20 oz. Claw Straight	4.38	5.60
36	16 oz. Claw Curved	4.06	5.20
36A	16 oz. Claw Straight	4.06	5.20
36B	20 oz. Claw Curved	4.38	5.60
36C	20 oz. Claw Straight	4.38	5.60

### SOFT FACE HAMMERS

39	Soft Face 1"	4.38	5.60
39A	Soft Face 1"	4.63	5.92
39B	Soft Face $1\frac{1}{2}$ "	6.25	8.00
39C	Soft Face $1\frac{1}{2}$ "	6.64	8.50
39D	Soft Face 2"	8.90	11.50
39E	Soft Face 2"	9.26	11.86
39F	Tip, Soft 1"	1.11	1.42
39G	Tip, Hard 1"	1.11	1.42

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## HAMMERS

### SOFT FACE HAMMERS

39H	Tip, Very Hard 1"	1.33	1.7
39I	Tip, Soft $1\frac{1}{2}$ "	1.56	2.0
39J	Tip, Hard $1\frac{1}{2}$ "	1.56	2.0
39K	Tip, Very Hard $1\frac{1}{2}$ "	2.68	3.4
39L	Tip, Soft 2"	2.50	3.2
39M	Tip, Hard 2"	2.50	3.2
39N	Tip, Very Hard 2"	4.24	5.42

### BALL PEIN HAMMERS

42	4 oz.	1.88	2.40
42A	8 oz.	2.16	2.76
42B	12 oz.	2.54	3.24
42C	16 oz.	2.68	3.42
42D	20 oz.	2.35	3.00
42E	24 oz.	2.66	3.40
42F	32 oz.	2.81	3.60

## BRADPUSHERS

*44	Bradpusher, 8"	1.73	2.20
*44A	Bradpusher, 6"	1.73	2.20

## TRI TAPS

*47	Tri Tap w/ rep. Blade	2.33	2.98
47A	6/32, 8/32, 10/32 Tri Tap	1.95	2.50
*47B	6/32, 8/32, 10/32 Blade	1.20	1.58
47E	6/32, 8/32, 10/24 Comp.	2.33	2.98
47F	6/32, 8/32, 12/24 Comp.	2.33	2.98
47G	6/32, 10/24, 12/24 Comp.	2.33	2.98
47H	6/32, 10/24, 1/4-20 Comp.	2.50	3.20
47J	6/32, 8/32, 10/24 Blade	.94	1.20
47K	6/32, 8/32, 12/24 Blade	.94	1.20
47L	6/32, 10/24, 12/24 Blade	.94	1.20
47M	6/32, 10/24, 1/4-20 Blade	.94	1.20
47P	T. Handle w/ 5 Taps	3.75	4.80

## SOLDERING EQUIPMENT

### SOLDER AIDS

51	Fork & Hook	.75	.98
DD51	Card of 5 #51		
51A	Fork & Brush	.75	.98
DD51A	Card of 5 #51A		
51B	Knife & Brush	.75	.98
DD51B	Card of 5 #51B		
51C	Fork & Reamer	.75	.98
DD51C	Card of 5 #51C		
51C1	Micro Model	.75	.98
DD51C1	Card of 5 #51C1		
51C2	Micro Model	.75	.98
DD51C2	Card of 5 #51C2		
51D	Solder Brush	.30	.38

### HEAT SINKS

51E	Heat Sink, Large w/ Plastic Handle	.66	.84
DD51E	Card of 5 #51E		
51E1	Heat Sink	.59	.76
51F	Heat Sink, Med. w/ Plastic Handle	.58	.74
DD51F	Card of 5 #51F		
51F1	Heat Sink	.50	.64
51FN	Nylon Lead Forming Tool (discontinued)		
51G	Heat Sink, Small w/ Plastic Handle	.58	.74
DD51G	Card of 5 #51G		
51G1	Heat Sink	.50	.64



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## SOLDERING EQUIPMENT

### LEAD BENDERS

51KL	¼ Watt, Lead Bending Gauge	4.69	6.00
51KM	½ Watt, Lead Bending Gauge	4.69	6.00
51KN	Set of 2, one each K1KL and 51KM	8.20	10.50
51KP	1 Watt, Lead Bending Gauge	5.86	7.50
51KQ	2 Watt, Lead Bending Gauge	5.86	7.50
51KR	Set of two, one each 51KP and 51KQ	10.55	13.50

### SOLDERING IRON

52FD	Handle for 52FF	1.80	2.30
52FF	Solder Iron, Complete	4.38	5.60
52FI	Heat Element for 52FF	1.76	2.26
52GA	⅛" Tip, Straight for 52FF, Pkg. of 3	.99	1.26
52GC	⅛" Tip, Curved for 52FF, Pkg. of 3	.99	1.26
52GD	⅜" Tip, Straight for 52FF, Pkg. of 3	.99	1.26
52GF	Kit of 3 Tips, 52GA-C-D	.99	1.26

## RULES

53	Rule, 6 Ft.	.94	1.20
53A	Rule, 8 Ft.	1.30	1.66
53B	Rule, 10 Ft.	1.54	1.96
53C	Pocket Rule, 3 Ft.	.38	.48

## TESTERS

54	Circuitracer	4.30	5.50
54A	Multi Pin Circuitracer	5.07	6.48
54A1	Multi Pin Circuitracer	6.34	8.10
54A2	Jumper Wire	1.53	1.96
54A3	Socket Probe	1.28	1.64
54A4	Socket Probe	1.28	1.64
54A5	Socket Probe	1.28	1.64
54A6	Pin Probe	1.28	1.64
54A7	Pin Probe	1.28	1.64
54A8	Pin Probe	1.28	1.64
*54B	Electrical Tester	.60	.76
*54C	Continuity Tester	1.55	1.98
*54D	Continuity Tester	1.55	1.98
*54E	Continuity Tester	2.35	2.98

## WIRE STRIPPER

*55A	Wire Stripper	.91	1.16
*55AA	Wire Stripper w/spring	1.22	1.56
*55B	Wire Stripper w/grips	1.02	1.30
*55BB	Wire Stripper w/grip & spg.	1.33	1.70
55C	Terminal Tool	2.11	2.70
K55C	Terminal Tool plus Asstd. Terminals	2.50	3.20

## TENSION TWEETIE

56	Tension Tweezie	.39	.50
56A	Tension Tweezie w/handle	.69	.88
DD56A	Card of 5, 56A		

## AWL

56B	Awl	.69	.88
DD56B	Card of 5, 56B		

## TUBE PULLER

57	Tube Pullers, Strght	1.49	1.90
57A	Tube Puller, 90°	1.56	2.00

STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
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## TONGS

57B	Tongs	.86	1.10
57C	Tongs	1.17	1.50

## OILERS

60	4 oz. Straight	.75	.96
60A	4 oz. Angle	1.00	1.28
60B	8 oz. Straight	1.00	1.28
60C	8 oz. Angle	1.18	1.50
60D	16 oz. Straight	1.06	1.36

## WORK POSITIONERS

62	Panavise	15.60	19.96
62A	Pana-Positioner	9.30	11.90
62A1	Vacuum Base	6.75	8.60
62A2	Vacuum Base & Positioner	16.10	19.90
62A3	Low Base Positioner	9.14	11.70
62B	Horizontal Panavise	15.60	19.96
62C	Nylon Jaws	1.01	1.30
62C1	Nylon Jaws w/ V Groove	1.01	1.30
62D	Vertical Head Only	9.95	12.70
62D1	Universal Vise w/ Arm		
62D2	Universal Vise Head Only w/ ⅝" Shaft		
62D3	Replacement Jaws		
62D4	Miniature Universal Vise w/ Arm		
62D5	Miniature Universal Head Only w/ ⅝" shaft		
62D6	Miniature Replacement Jaws		
62D7	Adj. Bench Clamp		
62D8	Converter Adapter Only		
62E	Horizontal Head Only	9.95	12.70
62F	Bench Clamp	7.04	9.00
62G	Circuit Holder & Positioner	22.80	29.20
62H	Circuit Holder	13.50	17.30
62H1	Post	6.74	8.60
62H2	Arms, Pair	6.45	8.24
62H3	Bar	2.62	3.36
62J	Low Base Vise, Vertical	15.80	20.22
62J1	Low Base Vise, Horizontal	15.80	20.22
62J2	62A w/ Face Plate	16.14	20.66
62J3	62A3 w/ Face Plate	16.14	20.66
62K	Steel Base Plate	13.50	17.30
62K2	Round Base Plate, 8 Inch		
62L	Adjusto Positioner	9.95	12.70
62L1	Adjusto Control Unit	7.00	8.92
62L2	Adjusto Post Unit	1.57	2.00
62L3	Adjusto Base	2.78	3.50
62M	Perforated Jig	6.48	8.24
62M1	Perforated Plate	2.57	3.26
62M2	Perforated Jig & Positioner	16.10	20.40
62N	Adj. Holder Without Head	18.18	23.26
62N1	Ad. Holder, Rigid Face Plate	25.05	32.06
62N2	Adj. Holder, Pan Head	27.29	34.92
62N3	Adj. Holder, Tilt Plate	26.81	34.32
62N4	Adj. Holder, Rotary Plate & Clamp	30.30	38.78
62N6	Adj. Holder, Stationary	17.16	21.96
62P	Flat Vise Jig	10.05	12.84
62P1	Flat Vise 4" Opening	6.53	8.32
62P2	Flat Vise w/ Positioner	19.70	24.90
62P3	Flat Vise w/ Adjusto	20.10	25.50
62R	Flat Vise Jig 8" Opening	10.70	13.66
62R1	Flat Vise 8" Opening	7.10	9.16
62R2	Flat Vise w/ Positioner	20.45	25.80
62R3	Flat Vise w/ Adjusto	22.25	28.00
62T	6" T Bar	3.95	5.04
62T1	10" T Bar	4.22	5.38
62U	Rotator Jig	10.70	13.66
62U1	Rotator Jig w/ Positioner	20.38	25.70
62U2	Rotator Jig w/ Adjusto	20.75	26.40
62W	Pan Head Only	10.08	12.90



STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
<b>WORK POSITIONERS</b>			
62W1	Face Plate Only, Steel Shank	9.06	11.60
62W2	Face Plate, Stationary	7.83	10.02
62W3	Face Plate, Tilting	9.86	12.62
62W4	Face Plate, Tilting Rotary	12.91	16.52
62X	Circuit Holder	10.90	13.90
62X1	Circuit Holder w/ Adjusto	20.85	26.60
62X2	Sponge Pad	.27	.34
62X3	Holder, Printed Circuit Board		
62Y	Holder Only	6.95	8.86
62Y1	Holder & Adjusto	16.90	21.50
62Z	Miniature Holder	9.95	12.70

## TOOL KITS

64	Tool Kit	4.61	5.90
64K	Tool Kit	4.61	5.90
65	Tool Box	4.06	5.20
65A	Tool Box	4.66	5.96
65B	Tool Box	2.16	2.76

## ZIP BACKS

*66	Zip Back, Clip Type	2.31	2.96
D66	Display of 6 #66		
*66A	Zip Back, Loop Type	2.31	2.96
D66A	Display of 6 #66A		
66B	Drill Press Key Retriever	4.30	5.50

## MAGNA TOOLS

*67	Magna Tool	.70	.90
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## THERMAL STRIPPERS

Reconditioning Service is available on all THERMAL STRIPPERS at factory cost of \$15.00 per unit. Units requiring extensive repair will be quoted individually.

80	Thermal Stripper	69.95	
80A	Replace. Filaments	2.85	
80B	Foot Pedal	8.80	
80C	Thermal w/ ground cord	74.50	
80D	Plier & Cord	42.00	
80E	Replace. Cord	2.85	
80F	Thermal w/ off-on Switch	76.00	
80F1	80F w/ Ground Cord	79.98	
80G	Thermal w/ Cradle Switch	78.00	
80G1	80G w/ Ground Cord	82.65	
80H	Formica Plates	.60	
80J	Tweezer, Std. Control Box	67.98	
80J1	80J w/ Ground Cord	71.98	
80K	80J w/ on/off Switch	71.98	
80K1	Tweezer & 3 Wire Ground Cord	75.98	
80L	80J w/ Cradle Switch	73.98	
80L1	80L w/ Ground Cord	77.98	
80M	Replacement Filaments for Tweezer Type	2.85	
80N	Tweezer & 2 Wire Cord	37.99	
80P	Thermal Stripper Bench Model, Low Priced	49.95	
80Q	Tweezer Type, Std. Control Box	57.99	
80Q1	80Q w/ Ground Cord	61.98	
80R	80Q w/ Cradle Switch	63.32	
80R1	80Q w/ Ground Cord	63.32	
80S	80Q w/ On-Off Switch	61.98	
80S1	80S w/ Ground Cord	65.32	
80T	Replacement Nichrome Tips for 80Q Tweezer	.40	
80U	Tweezer Stripper & Cord Only	32.99	

STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
<b>HAND KNURLERS</b>			
490	Hand Knurler	11.10	
490E	Diamond Med. Knurls	3.34	
490B	Straight Med. Knurls	3.34	

## SMALL HOLE DRILLERS

500	Small Hole Driller	16.00	
500A	Driller w/ Jacobs Chuck	34.50	
500B	Driller w/ Albrecht Chuck 15JO	42.10	
500C	Driller w/ Albrecht Chuck 30JO	42.10	
500D	Driller w/ $\frac{3}{32}$ " Jacobs Chuck	72.00	
500E	Driller w/ 15JO, 0-.062 Albrecht Chuck	79.00	
500F	Driller w/ 30JO, 0-.125 Albrecht Chuck	79.00	

## TORQUE TOOLS

525	2-100" oz. Screwdriver	31.25	
526	1-30" lb. Screwdriver	31.25	
527	1-20" oz. Screwdriver	39.95	
535	Adapter for 525 & 526, $\frac{1}{4}$ ", male	1.05	

## PLIERS

		"VINYLITE" — ADD "V" TO CODE NUMBER	
		Ind. Net	List
Add to Cost of Each Cutter:		\$1.95	\$2.50
*A1L	Lg. Hd. Chain Nose Plier 6"	5.79	7.40
*A2	Radio & Ignition Plier 6 $\frac{1}{2}$ "	4.94	6.32
*A2L	Same as A2 w/ leaf spring	5.23	6.68
*A4	Lg. Nose Curve Tip Plier 6"	4.75	6.08
*A4L	Same as A4 w/ leaf spring	5.00	6.40
*A5	Serrated Lg. Nose Plier 5 $\frac{1}{2}$ "	4.38	5.60
*A5L	Same as A5 w/ leaf spring	4.67	5.96
*A6L	Rd. Nose Lg. Hdle 8"	5.75	7.36
*A7L	Transverse End Cut 6 $\frac{1}{2}$ "	4.94	6.32
*A8	Lg. Chain Nose 6 $\frac{1}{2}$ "	3.94	5.04
*A8L	Same as A8 w/ leaf spring	4.19	5.36
*A9	Lg. Flat Nose Plier 6 $\frac{1}{2}$ "	3.94	5.04
*A9L	Same as A9 w/ leaf spring	4.19	5.36
*A11	Lg. Narrow Chain Nose 4 $\frac{1}{2}$ "	3.55	4.56
*A11B	Plier, Chain Nose, 4 $\frac{3}{4}$ "	10.79	13.80
*A11BS	A11B w/ coil spring	11.10	14.20
*A11L	Same as A11 w/ leaf spring	3.84	4.92
*A11S	Same as A11 w/ coil spring	3.84	4.92
*A12	Lg. Chain Nose 4 $\frac{3}{4}$ "	3.48	4.44
*A12L	Same as A12 w/ leaf spring	3.86	4.94
*A12S	Same as A12 w/ coil spring	3.86	4.94
*A13	Bent Needle Nose 5 $\frac{1}{2}$ "	4.82	6.20
*A13L	Same as A13 w/ leaf spring	5.11	6.56
*A14-4 $\frac{1}{2}$	Lg. Narrow Needle Nose 4 $\frac{1}{2}$ "	4.37	5.60
*A14L-4 $\frac{1}{2}$	Same as A14-4 $\frac{1}{2}$ w/ leaf spring	4.66	6.16
*A14-6	Lg. Narrow Needle Nose 6"	4.47	5.72
*A14L-6	Same as A14-6 w/ leaf spring	4.76	6.08
*A15A	$\frac{1}{8}$ " Flat Nose 4 $\frac{1}{2}$ "	3.11	3.98
*A15AL	Same as A15A w/ leaf spring	3.40	4.34
*A15B	$\frac{3}{16}$ " Flat Nose 4 $\frac{1}{2}$ "	3.40	4.34
*A15BL	Same as A15B w/ leaf spring	3.69	4.70
*A15C	Plier, Flat sided, pointed, 4 $\frac{3}{4}$ "	4.69	6.00
*A15CL	A15C w/ leaf spring	5.00	6.40
*A15D	Plier, Flat sided, pointed, radiused jaws, 4 $\frac{3}{4}$ "	4.69	6.00
*A15DL	A15D w/ leaf spring	5.00	6.40
*A16A	Fine Rd. Nose 4 $\frac{1}{2}$ "	3.14	4.02
*A16AL	Same as A16A w/ leaf spring	3.39	4.34
*A17A	Same as A17 w/ smooth jaws	3.14	4.02
*A17AL	Same as A17A w/ leaf spring	3.39	4.34
*A17AS	Same as A17A w/ coil spring	3.39	4.34
*A20-4 $\frac{1}{2}$	Lg. Chain Nose 4 $\frac{1}{2}$ "	2.91	3.72
*A20L-4 $\frac{1}{2}$	Same as A20-4 $\frac{1}{2}$ w/ leaf spring	3.20	4.08
*A20-5	Lg. Chain Nose 5"	3.18	4.06
*A20L-5	Same as A20-5 w/ leaf spring	3.47	4.42
*A20-5 $\frac{1}{2}$	Lg. Chain Nose 5 $\frac{1}{2}$ "	3.95	5.06
*A20L-5 $\frac{1}{2}$	Same as A20-5 $\frac{1}{2}$ w/ leaf spring	4.24	5.42
*A20-6	Lg. Chain Nose 6"	4.19	5.36
*A20L-6	Same as A20-6 w/ leaf spring	4.48	5.72



STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
<b>PLIERS</b>			
*A21	Bent Nose 4 3/4"	4.30	5.50
*A21S	Same as A21 w/ coil spring	4.60	5.88
*A22	Tip Cutters 4 1/2"	4.70	6.02
*A22S	Same as A22 w/ coil spring	4.99	6.38
*A23	Lg. Chain Nose Cutter 4 1/2"	5.50	7.04
*A23S	Same as A23 w/ coil spring	5.79	7.40
*A24	Lg. Needle Nose 6"	4.75	6.08
*A24S	Same as A24 w/ coil spring	4.99	6.38
*A25	Lg. Needle Nose 5 1/2"	4.31	5.52
*A25S	Same as A25 w/ coil spring	4.60	5.88
*A27	Lg. Chain Nose 5 1/2"	5.30	6.78
*A27L	Same as A27 w/ leaf spring	5.59	7.14
*A27S	Lg. Chain Nose Cutter w/ coil spring	5.59	7.14
*A29	Bent Chain Nose 4 1/2"	6.40	8.20
*A29L	Same as A29 w/ leaf spring	6.69	8.56
*A30-5	Plier, General, 5"	1.41	1.80
*A30-6	Plier, General, 6"	1.45	1.86
*A30E	Lg. Chain Nose 4 3/4"	4.76	6.10
*A30EA	Wire Coiling Plier	10.10	13.00
*A30EAL	A30EA w/ leaf spring	10.43	13.30
*A30EL	Same as A30E w/ leaf spring	5.05	6.46
*A31-7 1/2	Plier, Multi-Groove, 7 1/2"	2.45	3.14
*A31-10	Water Pump Plier	3.10	3.96
*A32	Ignition Plier	2.10	2.68
*A33L	End Cutting Needle Nose w/ leaf spring 6"	4.48	6.22
*A34L	End Cutting Needle Nose w leaf spring 4 1/2"	4.48	6.22
*A35	Oblique End Cutter 4 3/4"	8.55	11.00
*A35L	Same as A35 w/ leaf spring	8.84	11.36
*A36	Flat Nose, Box Joint, 4 1/2"	4.69	6.00
*A36L	A36 w/ leaf spring 4 1/2"	5.00	6.40
*A37	Short Chain Nose	4.70	6.00
*A37L	A37 w/ leaf spring 4 1/2"	5.00	6.40
*A38	Short Chain Nose	4.70	6.00
*A38L	Same as A38 w/ leaf spring	4.99	6.36
*A38T	Plier, Teflon Insert, Chain Nose 4 1/2"	13.05	16.70
*A38TL	A38T w/ leaf spring	13.36	17.10
*A39	Lg. Needle Nose 6"	5.35	6.84
*A39L	Same as A39 w/ leaf spring	5.64	7.20
*A40-5	Lg. Rd. Nose 5"	5.25	6.72
*A40L-5	Same as A40-5 w/ leaf spring	5.54	7.08
*A40-6	Lg. Rd. Nose 6"	5.70	7.30
*A40L-6	Same as A40-6 w/ leaf spring	5.99	7.66
*A41	Lg. Chain Nose 6"	5.35	6.84
*A41L	Same as A41 w/ leaf spring	5.64	7.20
*A42	Flat Nose 4 1/2"	5.65	7.24
*A42R	Needle Nose Plier	10.10	13.00
*A42RL	A42R w/ leaf spring	10.48	13.40
*A42L	Same as A42 w/ leaf spring	5.94	7.60
*A43	Round Nose 4 1/2"	5.65	7.24
*A43L	Same as A43 w/ leaf spring	5.94	7.60
*A44	Chain Nose Plier 4 1/2"	5.65	7.24
*A44A	Plier, Super Slim w/ Chain Nose 4 1/2"	6.41	8.20
*A44AL	A44A w/ leaf spring	6.73	8.60
*A44L	Same as A44 w/ leaf spring	5.94	7.60
*A44T	Plier, Teflon Insert 4 1/2"	12.81	16.40
*A44TL	A44T w/ leaf spring	13.36	17.10
*A45	End Nipper 4 1/2"	7.63	9.76
*A45L	Same as A45 w/ leaf spring	7.92	10.12
*A45A	Hard End Nipper 4 1/2"	10.48	13.40
*A45AL	Same as A45A w/ leaf spring	10.77	13.76
*A46	Oblique End Nipper 4 1/2"	7.63	9.76
*A46L	Same as A46 w/ leaf spring	7.92	10.12
*A46A	Hard Oblique End Nipper	10.48	13.40
*A46AL	Same as A46A w/ leaf spring	10.77	13.76
*A47	Plier, Super Slim 4 1/2"	6.41	8.20
*A47L	A47 w/ leaf spring	6.73	8.60
*A49L	End Nipper w/ leaf spring	11.49	14.70
*A51	Cable Cutter	12.00	15.40
*A52	Hard Wire Cutter 4"	4.14	5.30
*A52L	Same as A52 w/ leaf spring	4.43	5.66
*A53	Hard Wire Cutter 5"	4.14	5.30
*A53L	Same as A53 w/ leaf spring	4.43	5.66

STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
<b>PLIERS</b>			
*A54	Lead Wire Bending 5 1/2"	9.54	12.20
*A54L	Same as A54 w/ leaf spring	9.83	12.56
*A57	Tip-O-Dyke, 1/8" Tip, Box Joint	11.73	15.00
*A57L	A57 w/ leaf spring	11.95	15.30
*A59	Tip-O-Dyke 5"	10.79	13.80
*A59L	A59 w/ leaf spring	11.10	14.20
*A60-7	Linesmans Plier 7"	4.16	5.32
*A60-8	Linesmans Plier 8"	4.81	6.16
*A61-6	Lg. Chain Nose w/ cutter 6"	4.66	5.96
*A61L-6	Same as A61-6 w/ leaf spring	4.95	6.32
*A61-7	Lg. Chain Nose w/ cutter 7"	4.83	6.18
*A61L-7	Same as A61-7 w/ leaf spring	5.08	6.50
*A65	Nipper Oblique, Straight Handles 4 1/2"	12.58	16.10
*A66	Nipper Oblique, Bowed Handles 4 1/2"	12.58	16.10
*A67	Cutter, Oblique, pointed on both ends, 4 1/2"	12.58	16.10
*A68	Nipper, Oblique, Tip Cut 4 1/2"	14.30	18.30
*A68L	A68 w/ leaf spring	14.61	18.70
*A70	Nipper, Oblique, Flush cut 4 1/2"	7.81	10.00
*A70L	A70 w/ leaf spring	8.14	10.40
*A73	Transverse Tip Cutter, Slim 4 1/2"	8.20	10.50
*A73L	A73 w/ leaf spring	8.51	10.90
*A74	Midget Diagonal Plier	10.10	13.00
*A74L	A74 w/ leaf spring	10.48	13.40
*A76	Fine Pt. Diag. 4"	5.80	7.40
*A76L	Same as A76 w/ leaf spring	6.09	7.76
*A77	Fine Pt. Diag. 4"	6.27	8.04
*A77L	Same as A77 w/ leaf spring	6.56	8.40
*A78	Oblique Tip Cutter 4 3/4"	11.40	14.60
*A78L	Same as A78 w/ leaf spring	11.69	14.96
*A79	Flush Cut Diag. 4"	5.80	7.40
*A79L	Same as A79 w/ leaf spring	6.09	7.76
*A80	Diagonal Cutter 4"	5.35	6.84
*A80L	Same as A80 w/ leaf spring	5.64	7.20
*A81	Printed Circuit Cutter	7.75	9.92
*A81L	Same as A81 w/ leaf spring	8.04	10.28
*A83L	Pointed Diag. Cutter	8.20	10.50
*A84E	Plier, Tip Cutting 4 3/4"	5.39	6.90
*A84EL	A84 w/ leaf spring	5.63	7.20
*A84L-4 3/4	Flush Pt. Diag. Cutter	6.10	7.80
*A85	Snub Nose Diag. 4"	4.79	6.12
*A85L	Same as A85 w/ leaf spring	5.08	6.48
*A86EL	Cutting Plier w leaf spring (only), 4 3/4"	5.63	7.20
*A86L-4 1/2	Pointed Diag. w/ leaf spring	4.54	5.80
*A86L-4 3/4	Same only 4 3/4"	4.63	5.92
*A86L-5	Same only 5"	4.79	6.12
*A86L-6	Same only 6"	5.35	6.84
*A87-7	Heavy Duty Diag. 7"	7.35	9.40
*A89L-4 3/4	Diag. Cutter w/ leaf spring	5.80	7.40
*A89L-5 1/2	Same only 5 1/2"	6.27	8.00
*A89L-6	Same only 6"	6.45	8.26
*A90	Tip-O-Dyke 4 3/8"	10.79	13.80
*A90L	A90 w/ leaf spring	11.10	14.20
*A91	Side Cutter 4"	4.31	5.52
*A91L	A91 w/ leaf spring	4.64	5.92
*A91S	A91 w/ Coil Spring	4.64	5.92
*A92	Fine Point Diag. 4"	4.13	5.28
*A92L	Same as A92 w/ leaf spring	4.40	5.62
*A92S	Same as A92 w/ coil spring	4.40	5.62
*A93	Flush End Nipper 4 1/2"	7.65	9.84
*A93L	Same as A93 w/ leaf spring	7.94	10.20
*A94	Flush Oblique Nipper 4 1/2"	7.65	9.80
*A94L	Same as A94 w/ leaf spring	7.94	10.16
*A95	Pointed Diag. 4"	4.36	5.58
*A95E	Cutting Plier 4"	5.39	6.90
*A95EL	A95E w/ leaf spring 4"	5.63	7.20
*A95L	Same as A95 w/ leaf spring	4.65	5.94
*A95S	Same as A95 w/ coil spring	4.65	5.94
*A96-4 1/2	Diagonal Cutter	3.56	4.56
*A96L-4 1/2	Same as A96 w/ leaf spring	3.85	4.92
*A96-5	Diagonal Cutter	4.05	5.18
*A96L-5	Same as A96-5 w/ leaf spring	4.29	5.50
*A96-6	Diagonal Cutter 6"	4.38	5.60
*A96L-6	Same as A96-6 w/ leaf spring	4.63	5.92



STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
<b>PLIERS</b>			
PLIERS (150 Series) — Reconditioning Service			
Reinstall inserts returned by customer and recondition		\$10.00	
Sharpen and align cutting edges		\$ 3.00	
Install new inserts and recondition		\$14.50	
*A97	Diagonal Cutter 4"	3.69	4.72
*A97B	Cutter, Diag., Beryllium 4"	11.73	15.00
*A97BS	A97B w/ coil spring	11.95	15.30
*A97E	Plier, Cutting, Diag., Semi-Flush Cut 4"	4.54	5.80
*A97EL	A97E w/ leaf spring	4.76	6.10
*A97L	Same as A97 w/ leaf spring	3.98	5.08
*A97S	Same as A97 w/ coil spring	3.98	5.08
*A98L	Flush End Nipper 8"	6.69	8.56
*A99	Flush Diagonal 4"	4.11	5.26
*A99E	Plier, Cutting, Diag., Flush cut 4"	5.08	6.50
*A99EL	A99E w/ leaf spring	5.31	6.80
*A99L	Same as A99 w/ leaf spring	4.40	5.62
*A99S	Same as A99 w/ coil spring	4.40	5.62
*A11S-A97S	Chain Nose & Diag. Comb.	9.68	12.30
*A150	Cutter, Diag. w/ Tool Steel insert jaws 4 3/8"	21.65	27.70
*A150L	A150 w/ leaf spring	22.65	29.70
*A150-1	Cutter, Diag. w/ Tool Steel insert jaws 4 3/8"	26.10	33.40
*A150-1L	A150-1 w/ leaf spring	27.60	35.40
*A151	Nipper w/ Tool Steel insert jaws 4 3/8"	30.90	39.60
*A151L	A151 w/ leaf spring	32.50	41.60
*A152	Cutter, Diag. w/ Tool Steel Insert jaws 4 3/8"	30.10	38.50
*A152L	A152 w/ leaf spring	30.60	39.20
*A387	Chain Nose with Cutter 5 3/4"	2.81	3.60
*A410	Midget Chain Nose 4 3/4"	2.19	2.80
*A411	Midget Diagonal Cutter 4 1/2"	2.66	3.40
*A453	Diagonal Cutter 5"	2.54	3.24

## TWEEZERS

"TEFLON" — ALL TWEEZERS CAN BE TEFLON COATED  
ADD "EF" TO STOCK NUMBER. MINIMUM ORDER 12

Add to Cost of each Tweezer:

### DUMONT STYLE

		Ind. Net \$2.50	List \$3.20
B-A	Carbon Steel, Heavy 4 1/2"	3.33	4.26
B-AC	Carbon Steel, Medium 4 1/2"	3.33	4.26
B-AM	Brass, Non Sparking 4 1/2"	2.55	3.26
B-D	Carbon Steel, Top Flush Cut 4 1/2"	3.38	4.32
B-H	Carbon Steel, Short Pts., 3 1/2"	2.75	3.52
B-P	Carbon Steel, Long Narrow, Fine Pts. 5"	2.60	3.32
B-PS	B-P, Stainless, 5"	2.99	3.82
B-S	B-P, w/ Med. Pts., 5"	2.33	2.98
B-SS	B-S, Stainless, 5"	2.83	3.62
B-ZA	Carbon Steel, Fine Pts., 4 1/2"	2.30	2.94
B-ZAS	B-ZA, Stainless, 4 1/2"	2.83	3.62
B-ZB	B-ZA, Medium Pts., 4 1/2"	2.33	2.98
B-ZBS	B-ZA, Stainless, 4 1/2"	2.83	3.62
B-OA	Carbon Steel, Precision Points, 4 1/2"	3.60	4.60
B-OC	Carbon Steel, 3 1/2"	2.75	3.52
B-OC5A	B-OC, Stainless, Anti Acid, Non Magnetic	4.20	5.36
B-OOC	B-AC Less Serrations, 4 1/2"	3.33	4.26
B-O00	B-O0 w/ Radius Edges, 4 1/2"	4.18	5.34
B-O0	Carbon Steel, Extra Heavy, 4 1/2"	3.33	4.26
B-OOSA	B-O0, Stainless, Anti Mag., 4 1/2"	4.75	6.08
B-O	Carbon Steel, Heavy, 4 1/2"	3.33	4.26
B-1	Carbon Steel, Regular Pts., 4 1/2"	3.33	4.26
B-2	Carbon Steel, Medium Pts., 4 1/2"	3.33	4.26
B-2S	B-2, Stainless, 4 1/2"	4.14	5.30
B-2SA	B-2, Stainless, Anti Acid, Non-Mag. 4 1/2"	4.50	5.76
B-2A	Carbon Steel, Flat Pts., 4 1/2"	3.41	4.36
B-2AB	Nickel Silver Steel, Curved Pts., 4 1/2"	5.31	6.80
B-2ASA	B-2A, Stainless, Anti Acid, Non-Mag., 4 1/2"	4.75	6.08
B-2AC	B2AB w/ Straight Points	4.61	5.90
B-2ACA	B-2A, Stainless, Car. #20, Anti Acid, High Temp, 4 1/2"	6.38	8.16
B-3	Carbon Steel, Fine Pts., 4 1/2"	3.33	4.26
B-3S	B-3, Stainless, 4 1/2"	3.85	4.92
B-3SA	B-3A, Anti Acid, 4 1/2"	4.50	5.76
B-3M3	Fine Points, 4 1/2"	3.68	4.70
B-3ME	Micro Erem B-3, 4 1/2"	3.61	4.61
B-3C	Carbon Steel, 4 1/2"	3.33	4.26
B-3CS	B-3C, Stainless, 4 1/2"	3.85	4.92
B-3CSA	B-3CS, Anti Acid, 4 1/2"	4.50	5.76

STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
<b>TWEEZERS</b>			
B-3CCA	B-3CSA, Car. #20, Non-Mag., 4 1/2"	6.14	7.86
B-3CTA	B-3, Titanium, Non Mag., High Temp., 4 1/2"	11.00	14.10
B-3CM3	Carbon Steel, Fine Points, 4 1/2"	3.68	4.70
B-3CME	B-3, Micro Erem Finish, 4 1/2"	3.61	4.62
B-3CSME	B-3CS, Micro Erem Finish, 4 1/2"	4.13	5.28
B-4	Carbon Steel, Fine Pts., 4 1/2"	3.41	4.36
B-4S	B-4, Stainless, 4 1/2"	4.00	5.12
B-4SA	B-4S, Anti Acid, 4 1/2"	4.85	6.20
B-4CA	B-4, Car. #20, Non-Mag., Acid, Heat, 4 1/2"	6.48	8.28
B-5	Carbon Steel, Ex-Fine Points, 4 1/2"	4.18	5.34
B-5A	Carbon Steel, Angle Points, 4 1/2"	5.00	6.40
B-5M3	Carbon Steel, Needle Points, 4 1/4"	4.61	5.90
B-5S	B-5, Stainless, 4 1/2"	4.60	5.88
B-5SA	B-5S, Anti Acid, 4 1/2"	5.26	6.74
B-5CA	B-5, Car. #20, Non-Mag., Acid, Heat, 4 1/2"	6.89	8.82
B-6	Carbon Steel, Angle Points, 4 1/2"	4.60	5.88
B-6A	Carbon Steel, Angle Points, 4 1/2"	5.00	6.40
B-6S	B-6, Stainless, 4 1/2"	5.00	6.40
B-6SA	B-6S, Anti Acid, 4 1/2"	5.51	7.06
B-7	Carbon Steel, Curved Points, 4 1/2"	4.60	5.88
B-7S	B-7, Stainless, 4 1/2"	5.00	6.40
B-7SA	B-7S, Anti Acid, 4 1/2"	5.38	6.88
B-7ME	B-7, Micro Erem Finish, 4 1/2"	4.80	6.14
B-7A	Carbon Steel, Curved Pts., Med., 4 1/2"	4.60	5.88
B-7AS	B-7A, Stainless, 4 1/2"	5.00	6.40
B-7B	Carbon Steel, Curved Serrated Pts., 4 1/2"	4.63	5.92
B-7BS	B-7B, Stainless, 4 1/2"	5.00	6.40
B-7C	Carbon Steel, Curved Fine Pts., 4 1/2"	4.60	5.88
B-7CS	B-7C, Stainless, 4 1/2"	5.05	6.48
B-7M3	Carbon Steel, Needle Pts., 4 1/4"	5.08	6.50
B-8	Carbon Steel, Blunt Jaws, 4 1/2"	4.66	5.96
B-9/0	Carb. Steel, Fine Pts., Set Screw, 4 1/2"	20.58	26.34
B-9/1	B-9/0, Med. Pts., 4 1/2"	20.58	26.34
B-10/0	Carbon Steel, Fine Pts., 4 1/2"	10.54	13.48
B-10/00	Carbon Steel, Fine Points, 4 1/2"	10.55	13.50
B-10/1	B-10/0, Med. Pts., 4 1/2"	10.54	13.48
B-11	Nickel Steel, Non-Mag., Med. Pts., 4 1/2"	3.41	4.36
B-12	B-11, Fine Points, 4 1/2"	3.41	4.36
B-13	Carbon Steel, Long Narrow, 4 3/4"	5.00	6.40
B-14A	Carbon Steel, Oblique Cutter, 4 1/2"	8.75	11.20
B-14AN	Carbon Steel, Cutter, 4 1/2"	7.58	9.70
B-15	Carbon Steel, Flush Cut, 4 1/4"	5.95	7.60
B-15A	Carbon Steel, Angle Flush Cut, 4 1/2"	8.35	10.68
B-15AC	Carbon Steel, Cutting, 4 1/2"	8.75	11.20
B-15B	Carbon Steel, Top Flush Cut, 4 1/2"	6.68	8.54
B-16	Pleezer, Round Nose, 4 3/4"	4.23	5.40
B-17	Pleezer, Chain Nose, 4 3/4"	4.23	5.40
B-18	Pleezer, Flat Nose, 4 3/4"	4.23	5.40
B-50S	Stainless, Long Narrow, 5"	5.00	6.40
B-52ASA	Stainless, Anti Acid, Spoon Tips, 4 1/2"	5.73	7.32
B-53CSA	Stainless, Anti-Acid, Fine Pts., 4 1/2"	5.29	6.76
B-56	Pleezer, Angle Nose, 4 3/4"	5.00	6.40
B-57	Pleezer, Flat Nose, 4 3/4"	4.69	6.00
B-58	Pleezer, Str. Nose, 4 3/4"	4.69	6.00
B-60S	Stainless, Parallel Pts. for 1/4", 4 3/4"	5.00	6.40
B-61	Nickel Silver, Non-Mag., Reversible Action, Fine Pts., 4 1/2"	8.75	11.20
B-63CSA	B61, Stainless, Anti Acid	8.75	11.20

### BOLEY STYLE

C-AA	Carbon Steel, Bevel Edges, Fine Pts., 4 3/4"	1.58	2.02
C-AASA	C-AA, Stainless, Anti Acid, 4 3/4"	3.52	4.52
C-AACA		5.20	6.64
C-AM	C-MM, Brass, Non Sparking, 4 1/2"	2.55	3.26
C-BB	Carbon Nickel Plated, Lt. Fine Pts., 4 1/2"	1.16	1.48
C-GG	Carb. Nkl. Pltd., Hvy. Duty, Fine Pts., 5"	1.93	2.46
C-HH	Carb. Nkl. Pltd., Hvy. Tension, Fine Pts., 4 1/2"	1.66	2.12
C-LL	Carb. Nkl. Pltd., Strong, Fine Pts., 4 1/2"	1.58	2.02



STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
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## TWEEZERS

### BOLEY STYLE

C-MM	Carb. Nkl. Plttd., Beveled Fine Pts., 4 3/4"	1.66	2.12
C-NN	Carb. Nkl. Plttd., Bev. Med. Hvy., Fine Pts., 4 1/2"	1.50	1.92
C-00	Carb. Nkl. Plttd., Bev. Med., Fine Pts., 4 1/2"	1.50	1.92
C-PP	Carb. Nkl. Plttd., Med. Rnd. Pts., 4 1/4"	1.50	1.92
C-QQ	Carb. Nkl. Plttd., Fine Rnd. Pts., 4 1/4"	1.50	1.92
C-RR	Carb. Nkl. Plttd., Hvy. Duty, Long Bev., 5 1/2"	2.75	3.52
C-T	Carb. Nkl. Plttd., Med. Hvy., Angled Pts., 4 1/2"	2.75	3.52
C-VL	Carb. Steel, Med. Pts. w/cap, 4 1/2"	2.60	3.32

### ASSEMBLY

C-19	Carb. Nkl. Plttd., Serrated Pts., 6 1/4"	3.41	4.36
C-20	Carb. Nkl. Plttd., Med. Ser. Pts., 5 1/2"	3.33	4.26
C-20S	C20, Stainless, 4 1/2"	3.13	4.00
C-21-6 1/4	Carb. Nkl. Plttd., Lge. Ser. Pts., 6 1/4"	3.41	4.36
C-21-8	Carb. Nkl. Plttd., Lge. Ser. Pts., 8"	6.73	8.60
C-22	Carb. Nkl. Plttd., Offset Ser. Pts., 6"	4.18	5.34
C-23	Carb. Nkl. Plttd., Narrow Offset Ser. Pts., 6"	5.00	6.40
C-24-6	Carb. Nkl. Plttd., Offset, Ser. Align. Pip, 6"	4.18	5.34
C-24-8	Same as C-24, 8" length	6.70	8.56
C-24S-4 1/2	C-24, Stainless, 4 1/2"	3.13	4.00
C-24S-6	C-24, Stainless, 6"	4.19	5.36
C-24SA	C-24, Stainless, Anti Acid, Anti Mag., 6"	5.85	7.48
C-25	Carb. Nkl. Plttd., Narrow Jaws, 4 3/4"	2.60	3.32
C-26	Carb. Nkl. Plttd., Round Jaws, 4 1/2"	2.75	3.52
C-27	Carb. Nkl. Plttd., Oblong Jaws, 4 1/2"	2.93	3.74
C-28	Carb. Nkl. Plttd., Oblong Offset Jaws, 4"	2.99	3.82
C-29	Carbon, Tension, Straight Jaws, 6"	4.60	5.88
C-30	C-29, Offset Jaws, 6"	5.00	6.40
C-31	Carb. Nkl. Plttd., Tension, Str. Jaws, 4 1/2"	2.99	3.82
C-35	Carb. Nkl. Plttd., Med. Jaws, 4 3/4"	2.75	3.52
C-35SA	C-35, Stainless Anti Acid 4 3/4"	4.18	5.34
C-36	Carb. Nkl. Plttd. Med. Offset Jaws, 4 3/4"	2.99	3.82
C-36SA	C-36, Stainless, Anti Acid, 4 3/4"	4.88	6.24
C-37	Carb. Nkl. Plttd., Sliding Lock, 5 1/2"	4.18	5.34
C-38	Carb., Recessed Tip w/ .008 Hole, 4 1/2"	5.85	7.48
C-39	Carb. Recessed Tip w/ .012 Hole, 4 1/2"	6.10	7.80
C-40	Carb. Recessed Tip w/ .015 Hole, 4 1/2"	5.85	7.48
C-41	Carb., 1/4" Slotted Tip, 4 1/2"	7.86	10.06

### ANTI-WICKING

C-44	Chrome Plated, F/Wire Sizes 28-30	8.35	10.68
C-45	Chrome Plated, F/Wire Sizes 24-26	8.35	10.68
C-46	Chrome Plated, F/Wire Sizes 20-22	8.35	10.68
C-47	Chrome Plated, F/Wire Sizes 16-18	8.35	10.68

## LOW PRICE TWEEZERS

CC-13C	Dumont Style Stainless	2.08	2.66
CC-15	Dumont Style Stainless	1.85	2.36
CC-17	Dumont Style Stainless	2.15	2.74
C-50	Boley Style Plated	.49	.62
CC-51	Boley Style Plated	.54	.68
CC-52	Boley Style Plated	.68	.86
CC-53	Boley Style Plated	1.19	1.52
CC-AAA	Boley Style Plated	.95	1.22
CC-MMM	Boley Style Plated	.95	1.22

## INDUSTRIAL KNIVES

E8	Knife Set 1 Hdle 10 Blades	2.88	3.68
E8A	Knife Handle Only from E8	.94	1.20
E9	Blades, Vial of 5 Only	1.01	1.30

STOCK No.	DESCRIPTION	INDUST. NET COST	LIST
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## INDUSTRIAL KNIVES

E10	Blades, Vial of 5 Only	1.01	1.30
E11	Blades, Vial of 5 Only	.63	.80
E12	Blades, Vial of 5 Only	.63	.80
E13	Blades, Vial of 5 Only	1.01	1.30
E14	Blades, Vial of 5 Only	1.01	1.30
E15	Blades, Vial of 5 Only	1.01	1.30
E16	Blades, Vial of 5 Only	1.01	1.30
E17	Blades, Vial of 5 Only	1.01	1.30
E18	Knife w/ 2 Blades	.94	1.20
E19	Blades, Vial of 5 Only	1.01	1.30
E19A	Blades, Vial of 5 Only	1.01	1.30
E20	Knife	.52	.66
E20D	Knife w/ grip 5"	.60	.76
*E20S	Knife, Retractable Blade	1.95	2.50
E21	Blade, Angle, Vial of 5 Only	.63	.80
E22	Blade, Slim Angle, Vial of 5 Only	.63	.80
E23	Blade, Curve, Vial of 5 Only	.63	.80
E24	Blade, Scraper, Vial of 5 Only	.63	.80
E26	Blade, Vial of 5 Only	.63	.80
E30	Knife 5"	.60	.76
E30D	Knife w/ grip	.68	.86
E31	Blade, Angle, (Shallow) Vial of 5 Only	.63	.80
E32	Blade, Angle, (Deep) Vial of 5 Only	.63	.80
E33	Blade, Curve, Vial of 5 Only	.63	.80
E40	Knife w/ handle	1.00	1.28
E65A	Knife Set 3 Hdles 10 Blades	3.10	3.95
E65B	Knife Set 2 Hdles 10 Blades	2.32	2.95

## ASSEMBLY BENCH TOOLS

*F12	Scissors 3 1/2" w/ 1 3/8" Cut	2.29	2.92
*F15	Scissors 5" w/ 1 3/4" Cut	2.89	3.70
*F21	Scissors 3 1/2" Curved	2.13	2.72
*F22	Scissors 3 1/2" Straight	2.13	2.72
*F32	Scissors 3 1/2" Curve	2.13	2.72
*F33	Scissors 3 1/2" Straight	2.13	2.72
*F35	Scissor Clamp	4.55	5.82
*F36	Scissor Clamp	4.55	5.82
*F37	Scissor Clamp, Straight, 6"	4.85	6.20
*F38	Scissor Clamp, Curved, 6"	4.85	6.20
F50	Inspection Mirror, Circular	1.35	1.74
F51	Inspection Mirror, Oval	1.50	1.92
F175	Knife Set, 6 pc.	6.06	7.76
F175-3	Blade, Long Hook	.36	.46
F-175-4	Blade, Medium Round	.36	.46
F175-5	Blade, Str. Line Following	.36	.46
F175-6	Blade, Oblique Line Following	.36	.46
F175-7	Blade, Short Rounded	.36	.46
F176	Knife Set, Parker Style, Lge. Blades	4.38	5.60
F176-20	Blade, Bolo Pt., Sharp Curve	.29	.36
F176-21	Blade, Bolo Pt., Med. Curve	.29	.36
F176-22	Blade, Bolo Pt., Med. Curve	.29	.36
F176-23	Blade, Spear Pt., Med.	.29	.36
F176-24	Blade, Spear Pt., Lge.	.29	.36
F177	Knife Set, Parker Style, Small Blades	4.61	5.90
F177-10	Blade, Bolo Pt., Med. Curve	.29	.36
F177-11	Blade, Spear Pt., Str. Oblique	.29	.36
F177-12	Blade, Hook, Int. Cutting	.29	.36
F177-13	Blade, Spear Pt., Slight Curve	.29	.36
F177-14	Blade, Straight	.29	.36
F177-15	Blade, Bolo, Short, Slight Curve	.29	.36
F178	Deburr, 3 1/2", .0-100	4.48	5.72
F179	Deburr, 4 1/4", .0-150	4.66	5.96
F180	Deburr, 4 1/4", .0-200	4.93	6.30
F181	Deburr Set, Double End, 6 pc.	16.88	21.60
F181A	Deburr, Double Bevel, .118-.177	2.81	3.60
F181B	Deburr, Double Rose, .099-.157	2.81	3.60
F181C	Deburr, Double Rose, .036-.052	2.81	3.60
F181D	Deburr, Hollow Cntr., .119-.157	2.81	3.60
F181E	Deburr, Double Bevel, .115-.156	2.81	3.60
F181F	Deburr, Double Bevel, .043-.080	2.81	3.60
F182	Deburring Scraper, 3/8" x 2 1/2" overall	1.73	2.20
F183	Deburring Scraper, 1/4" x 3" overall	2.14	2.74
F184	Pin Vise Set, 6 pc.	12.58	16.10
F185	Hand Vise, 3"	6.73	8.60



STOCK No.	DESCRIPTION	INDUST.	
		NET COST	LIST
F186	Hand Vise, 4"	7.58	9.70
F187	Hand Brush	2.49	3.18
F189	Hand Brush	2.49	3.18
F190	Hand Brush	2.49	3.18
F191	Emery Sticks	.54	.68
F192	Emery Sticks	.54	.68
F193	Emery Sticks	.54	.68
F194	Emery Sticks	.54	.68
F195	Emery Sticks	.54	.68
F196	Emery Sticks	.54	.68
F203	Min. Screwdriver Set, 6 pc.	2.81	3.60
*F204	Jewelers Screwdriver Set	7.50	9.60
*F205	Jewelers Screwdriver Set	5.00	6.40
F205A	F205 w/ colored plaster finger tips	6.18	7.90
F206	Inspection Loupe	10.60	13.56
F207	Eye Loupe	2.94	3.76
F208	Eye Loupe	2.94	3.76
F209	Eye Loupe	2.94	3.76
F210	Deburring Set	10.86	13.90
F210A	Deburr Tool .069-.073	1.81	2.32
F210B	Deburr Tool .083-.093	1.81	2.32
F210C	Deburr Tool .108-.118	1.81	2.32
F210D	Deburr Tool .134-.190	1.81	2.32
F210E	Deburr Tool .162-.186	1.81	2.32
F210F	Deburr Tool .197-.227	1.81	2.32
*F211	Scissor 4" Straight	3.25	4.16
*F212	Scissor 4" Curved	3.49	4.46
*F213	Scissor 4½" Straight	3.51	4.50
*F214	Scissor 4½" Curved	4.55	5.82
F215	Burr Set, 30 pc.	15.08	19.30
F216	Burr Set, Lge. sizes, 22 pc.	15.08	19.30
F217	Deburring Scraper 2" Scraper	3.34	4.28
F218	Miniature Hand Vise	6.75	8.60
F219	Miniature Hand Vise	6.75	8.60
F220	Pin Vise	2.50	3.20
*F221	Scissor Snip 7" Straight	3.30	4.22
*F222	Scissor Snip 7" Curved	3.51	4.50
F223	Precision Hand Drill	4.14	5.30
F224	Deburring, Cutting Broaches	3.98	6.36
F225	F224 w/ Knurled Handles	6.73	8.60
F226	Pin Vise	1.77	2.25
F227	Pin Vise	1.54	1.96
F228A	Set, Needle Files, 12 pc. #4 Cut	8.05	10.30
F228B	Set, Needle Files, 12 pc. #2 Cut	8.05	10.30
F228C	Set, Die Sinker Files, 12 pc.	18.99	24.30
F228D	Set, Tool Maker Riffler Files, 12 pc.	28.51	36.50
F229	Set, Tool Maker Files, 12 pc.	15.63	20.00
F229B	Set, Min. Broaching Files, 12 pc.	9.69	12.40
F231	Set, Drill, Deburr, Reamer	127.00	
F232	Bench Micrometer	66.50	
F233	Hand Micrometer	41.00	
F234A	Jewelers Lathe Set, Inch Grad.	1060.00	
F234B	Jewelers Lathe Set, Millimeter Grad.	1060.00	
F236	Set, Min. Drills, 72 pc.	26.50	
F241	Microscope 20X	6.75	
F242	Microscope 40X	9.55	
F243	Microscope 60X	31.50	
F244	Microscope 35X	27.40	
F245	Microscope 120X	35.60	
F246	Viewer w/ 2X Lenses	17.98	23.00
F247	Viewer w/ 2½X Lenses	17.98	23.00
F248	Viewer w/ 3 Lenses	17.98	23.00
F249	Eye Loupe, Folding, 1½" dia.	3.20	4.10
F250	Eye Loupe, Folding, 1¾" dia.	3.51	4.50
F251	Eye Loupe, Folding, 2" dia.	3.91	5.00
F252	Pocket Magnifier, Dual, 8X and 15X	10.48	13.40
F253	Pocket Magnifier, Dual, 10X and 20X	11.10	14.20
F254	Pocket Magnifier, 4X	6.73	8.60
F255	Pocket Magnifier, 6X	6.73	8.60
F256	Pocket Magnifier, 10X	7.35	9.40
F257	Ex-Power Magnifier, 12X	7.74	9.90
F258	Ex-Power Magnifier, 15X	8.05	10.30
F259	Ex-Power Magnifier, 20X	8.36	10.70
F263	Insp. Tripod, 3" x 6X	13.29	17.00
F264	Insp. Tripod, 3" x 12X	8.44	10.80



